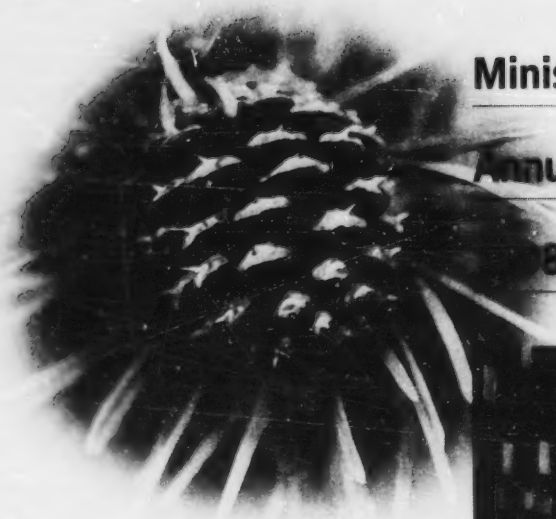
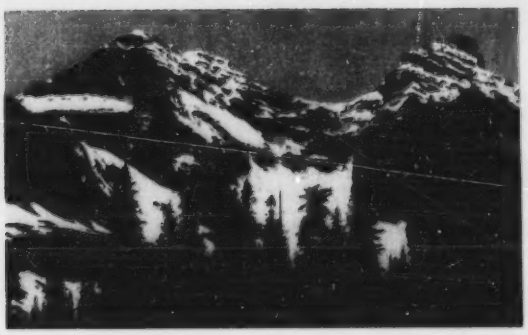


Ministry of Forests

Annual Report

1998/99



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Ministry of Forests

Annual Report

For the fiscal year ended March 31, 1999

BRITISH COLUMBIA
Ministry of Forests
Honourable Gordon Wilson, Minister

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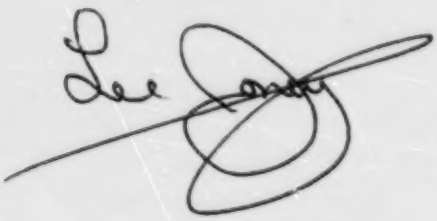
January 2001

The Honourable Gordon Wilson
Minister of Forests
Parliament Buildings
Victoria, British Columbia

Sir:

I have the honour to submit the Annual Report of the Ministry of Forests for the fiscal year ended March 31, 1999.



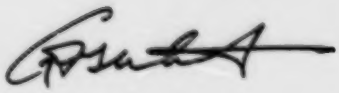
Lee Doney
Deputy Minister
Ministry of Forests

January 2001

Lieutenant-Governor
of British Columbia in Council
Parliament Buildings
Victoria, British Columbia

May It Please Your Honour:

Herewith I respectfully submit the Annual Report of the Ministry of Forests for the fiscal year ended March 31, 1999.



Honourable Gordon Wilson
Minister of Forests

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Detailed statistical tables are available at www.for.gov.bc.ca

The Forest Sector in 1998/99

The Ministry of Forests

The security and future of British Columbians have long been tied to the forest resource, in all of its diverse aspects.

The Ministry of Forests considers this vital relationship the foundation of its mission, which is: to manage, conserve and protect the province's forest, range and outdoor recreation resources to ensure their sustainable use for the cultural, physical and spiritual well being of British Columbians, who hold those same resources in trust for future generations. In respecting and caring for public forest and range lands, the ministry is guided by the ethics of stewardship and public service.

The ministry's highest priority is to support both a healthy forest environment and sustainable forest production. As set out in section 4 of the *Ministry of Forests Act*, the ministry carries out provincial government objectives in forest and range resource management by:

- encouraging maximum resource productivity,
- managing resources responsibly to achieve the greatest short- and long-term social benefits,
- practising planned, integrated resource management and use,
- encouraging a globally competitive forest industry, and
- asserting the financial interests of the Crown.

The ministry, also known as the Forest Service, manages the provincial forest, which comprises approximately 85 per cent of the province's total land base, for a wide variety of resources and uses to help ensure sustainability. Those values include timber, watersheds, fish habitat, protected areas, recreation, cultural values, range, water, wildlife and biodiversity. The ministry uses an ecological classification system as a basis for sustainable management.

To make sure that our timber resources remain sustainable, the Forest Service conducts Timber Supply Reviews, oversees reforestation and protects the forest and range resources from threats such as fire, insects and disease.

Each year, less than 1 per cent of the Crown forest is harvested. That harvest fuels the nearly $16 billion forest sector, which, despite economic downturns and structural change, remains the primary driver of the provincial economy. By law, all areas of Crown land that are logged must be reforested by the harvester.

The ministry manages the forest land base in a consultative manner with the public, industry, other Crown agencies (e.g., Forest Renewal BC and the Ministry of Environment, Lands and Parks) and other stakeholders, while recognizing the unique role of aboriginal peoples.

Stewardship

The Ministry of Forests oversees the timber, range and outdoor recreation resources of British Columbia's Crown forest land. The Forest Service manages this land for:

- production and harvesting of timber,
- production of forage,
- grazing of livestock, and
- outdoor recreation.

It cooperates with other agencies to manage for:

- biodiversity,
- watersheds and water,
- fish and wildlife habitat,
- tourism,
- heritage values, and
- energy and minerals.

Environmental Scan

Conditions beyond provincial and national borders continued to exert a strong influence on forestry in British Columbia during 1998/99. Market correction in the United States and Asia, especially Japan, did not happen as rapidly as anticipated. Structural changes within the B.C. industry continued to affect forest companies, workers and the communities that depend on forestry.

Working with industry, First Nations, other Crown agencies, the public and other stakeholders, the ministry made constructive changes to support forest-sector recovery:

- Under the Forest Action Plan, the Small Business 2000 program increased the amount of timber that was directly accessible to remanufacturers by 83 per cent over the previous year. This was a ministry commitment under the Jobs and Timber Accord.
- The ministry cut red tape and the administrative burden of the Forest Practices Code to offset unanticipated expenses of the code. Its high environmental standards were not compromised.
- In response to recommendations by the Community Forests Advisory Committee, the ministry introduced new legislation and selected pilot projects for new community forest tenures. These projects will increase First Nations' and communities' direct participation in forest management.
- The ministry reduced stumpage fees and adjusted the way the fees are calculated, to make them more sensitive to market fluctuations.

Challenges

The ministry faced a number of important forest-sector challenges in 1998/99. They included:

- continuing instability in Asian economies and currencies, and an economic crisis in Japan,
- weaker U.S. markets,
- structural changes (e.g., mill shut-downs and closures) within the provincial industry caused by an extended economic downturn,
- uncertain access to the U.S. market and allocation restrictions under the Canada/U.S. Softwood Lumber Agreement,
- increased competition from European and Asian producers with more favourable exchange rates, and
- increased industry costs from having to harvest less-accessible timber.

Opportunities

During 1998/99, the ministry helped the forest sector recover and rebuild by making the most of a range of tools and opportunities. Those included:

- the commitments made by government and industry under the Jobs and Timber Accord,
- the consultation-based Forest Action Plan, which includes short- and long-term actions to help stabilize communities and diversify and modernize the industry,
- a streamlined Forest Practices Code to reduce costs for logging. Legislative amendments have reduced the number of operational plans, removed detail from the regulations, and simplified the requirements of the silviculture prescription,
- reductions in stumpage fees,
- new forest management strategies and value-added expansion through innovative forest management practices agreements and the Small Business Forest Enterprise Program, including Small Business 2000,
- pilot community forest tenures to involve more stakeholders in forest management, and
- Forest Renewal BC Multi-Year

Quick Facts

Ministry of Forests Revenues

1998/99: $1.2 billion
1997/98: $1.8 billion
Table 1

Expenditures

1998/99: $592.5 million
1997/98: $478.1 million
Table 2

Quick Facts

Total land area in B.C.
94.8 million hectares (ha)

Crown land administered by the Ministry of Forests
81.9 million ha

Productive forest land area
48.8 million ha

Source: *1994 Forest, Range and Recreation Resource Analysis*

Agreements that will help licensees plan their work further ahead.

The Year in Business

The British Columbia forest products industry faced challenging economic conditions in 1998. It experienced generally lower product prices and lower manufacturing shipments. According to estimates prepared by the accounting firm PricewaterhouseCoopers, the industry incurred net losses from operations of $336 million in 1998, compared to losses from operations of $192 million in 1997. In 1998, the industry also reported non-operating charges of $721 million, largely reflecting asset write-downs and other restructuring charges.

Forest industry shipments during 1998 totalled $15.6 billion, down 7 per cent from the year before. This represented almost 50 per cent of the value of all shipments by manufacturing industries in British Columbia. Forest product exports in 1998 totalled $13.4 billion and accounted for more than half of total provincial exports.

According to Statistics Canada's Survey of Employment, Payroll and Hours (SEPH), direct employment averaged 82,300 in 1998, down from 86,600 in 1997.

Quick Facts

Timber volume committed as of March 31

1999: 70.6 million m^3
1998: 68.9 million m^3
Table C-7

Quick Facts

Volume of all products billed

1998/99: 67.6 million m^3
1997/98: 70.7 million m^3
Table C-3

Lumber

British Columbia's lumber production in 1998 was 12.8 billion board feet, down 4 per cent from 1997.

North American demand for lumber was again strong in 1998, with U.S. housing starts increasing 9 per cent to 1.6 million units. Canadian housing starts fell 7 per cent to 137,000 units in 1998. Japanese housing starts were 14 per cent lower than in 1997, falling to 1.2 million in 1998.

Despite strong North American lumber demand in 1998, the price of the bellwether indicator for the B.C. Interior industry — spruce-pine-fir 2x4s (kiln-dried, random length, standard-and-better grade) — fell to US$286 per thousand board feet from US$352 in 1997. Increased shipments from Eastern Canada, the Southern U.S. and the U.S. Pacific Northwest were the main reasons for the lower U.S. prices in 1998.

Lumber producers located on the B.C. coast were particularly hard hit in 1998, as lumber demand in Japan, the main Coastal market, remained severely depressed. Low demand dampened B.C. exports to Japan and reduced the 1998 price of the key Coastal lumber product, hemlock baby squares, to US$554 per thousand board feet from US$819 in 1997. The Canada/U.S. Softwood Lumber Agreement, in its third year in 1998, restricted Coastal producers' ability to divert lumber shipments to the U.S. market.

Lumber continued to be British Columbia's main export commodity. In 1998, $6.4 billion worth of lumber was exported internationally, down 18 per cent from 1997. The U.S. was still the main market for British Columbia lumber, with year-over-year exports down 10 per cent to $4.6 billion. Exports to Japan, the largest offshore market, fell 36 per cent to $1.3 billion in 1998. Exports to the European Union totalled $268 million in 1998, down 18 per cent from the year before.

Market pulp

B.C. shipments of market chemical paper-grade pulp remained level with the 1997 total of 3.8 million tonnes. Pulp exports from B.C. totalled $2.8 billion in 1998, a decrease of 11 per cent from 1997 because of lower prices. The average price of northern bleached softwood kraft (NBSK) pulp in 1998 was US$514 per tonne, down from the 1997 average price level of US$567 per tonne.

Newsprint

British Columbia's newsprint production totalled 1.3 million tonnes in 1998, up 8 per cent from 1997. Newsprint exports from British Columbia topped $786 million in 1998, down 6 per cent from 1997. The average U.S. West Coast price of standard newsprint increased to US$595 a tonne in 1998 from US$560 a tonne in 1997.

Structural panels

In 1998, plywood production in B.C. was 1.6 billion square feet (3/8-inch or 9.5-millimetre basis), down 5 per cent from 1997. The total value of plywood exports from the province was $203 million in 1998, down from $254 million in 1997. Plywood and oriented strandboard (OSB) continued to compete for market share in 1998, and OSB continued to gain acceptance. The average price for 3/8-inch (9.5-millimetre) Canadian softwood plywood was $336 per thousand square feet in 1998, down 8 per cent from 1997. The 1998 average price for 7/16-inch (11.1-millimetre) OSB was $301 a thousand square feet, up 50 per cent from 1997.

Strategic Objectives

The Ministry of Forests refined its strategic objectives for 1998/99 in response to the challenges of ongoing transition within the forest industry. The ministry focused on two key management objectives this year:

- reducing logging costs while maintaining environmental standards, and
- continuing to meet job-creation and resource-renewal commitments under the Jobs and Timber Accord and the Forest Action Plan.

These objectives were articulated in the ministry's planning process and its *Five-Year Forest and Range Resource Program, 1998 - 2003*. They linked directly to the provincial government's overall goals of creating jobs, stabilizing communities, reducing the costs of business and protecting the province's resources.

Operational Objectives

Within those strategic objectives, the ministry's primary operational objectives during 1998/99 were to:

- close the gap between actual major licensee harvest and the allowable annual cut by increasing standing timber inventories to two years of wood-ahead,
- streamline operational planning requirements, including clarifying the Forest Development Plan approval process,
- increase the amount of timber available to value-added manufacturers by selling the remaining undersold volume in the Small Business Forest Enterprise Program and reallocating wood within the program,
- implement a new pricing system

Quick Facts

Average U.S. West Coast price of standard newsprint

1998:	US$595/tonne
1997:	US$560/tonne

Quick Facts

Total B.C. forest industry shipments

1998:	$15.6 billion
1997:	$16.8 billion

Commercial timber harvesting

Each year, less than 1 per cent of provincial forest land is harvested. Managed, operable timber lands make up about half of the entire productive forest land in B.C., or about one-quarter of the entire provincial land base.

Planning processes consider, assess and compare all values of an area before timber harvesting is permitted. And by law, all harvested areas on Crown lands must be reforested.

(under the Forest Action Plan) to make more timber available to small business at fair market cost,

- develop pilot community forest tenures,
- test new forest management strategies through Innovative Forest Practices Agreements and Enhanced Forest Management Pilot Projects,
- work with Forest Renewal BC to help implement the planning and delivery systems based on Multi-Year Agreements with licensees,
- streamline the Forest Practices Code to make regulations simpler and more cost-effective, while preserving high environmental standards, and
- ensure stumpage rates properly reflect the costs of the Forest Practices Code and weakness in world lumber markets.

Supporting the Mandate

The initiatives listed above were undertaken against the backdrop of core work that supports the ministry's mandate to:

- encourage resource sustainability,
- practise planned and integrated resource use,
- encourage an efficient and world-competitive forest industry, and
- assert the financial interests of the Crown.

Ministry of Forests
Results in 1998/99

Managing diversity

B.C. has a greater diversity of forest types than any other jurisdiction in Canada or the U.S. To manage, protect and conserve those forest and range ecosystems, the Ministry of Forests employs more than 4,200 people, has contracts with many others, and works with the private sector on activities ranging from tree planting and landscape management to computer modelling and the study of forest ecology.

Strategic Results

Reducing logging costs while maintaining environmental standards

Resource Tenures and Engineering Branch played a prominent role in the cross-ministry development of the Cost Driver Initiative. Launched in January 1999, it is a partnership agreement between the ministry, other resource agencies and the forest industry to identify and reduce cost drivers — factors other than stumpage which drive up operating costs. The objectives of the Cost Driver Initiative are to:

- create a working environment in which timber harvesting, forest management and environmental objectives are balanced and managed cost-effectively, and
- reduce forest industry and government operating costs while maintaining environmental objectives and the integrity of the Forest Practices Code.

Tree Improvement Branch helped the ministry meet this objective during 1998/99 by quantifying the short-term impact of faster green-up and adjacency with Select (i.e., improved, fast-growing, insect- and disease-resistant) reforestation materials.

The Research Program, which is a partnership of Research Branch and regional scientists, refined management prescriptions to find more cost-effective solutions. The program revised the *Fish Streams Identification Guidebook* and began revising the *Mapping and Assessing Terrain Stability* and the *Gully Assessment Procedures* guidebooks. Research findings helped quantify the green-up and adjacency benefits of using Select reforestation materials.

They also contributed to the development of the Forest Practices Code and numerous guidebooks. The program continued its work this year to improve the scientific foundation for the guidebooks and to update a number of them.

Forest Practices Branch contributed to this ministry objective in several ways during 1998/99:

- The *Forest Statutes Amendment Act, 1999*, on which the branch worked, enabled the development of Forest Practices Code Pilot Project legislation that is designed to test alternative ways of regulating forest practices.
- The branch developed a new Forest Practices Code definition for the "retention silvicultural system," to encompass new and emerging forest practices.

Revenue Branch is responsible for determining, identifying and claiming ministry revenues. It cut stumpage rates on June 1, 1998, by an average of $8.10 per cubic metre ($m^3$) on the Coast and $3.50/$m^3$ in the Interior to reflect unanticipated costs of the Forest Practices Code. The branch also responded to the implementation of the Forest Action Plan, in January 1999, which reduced costs by allowing deferred stumpage payment. This created an opportunity for licensees to pay stumpage in equal monthly installments and replaced interim billing with field scales. It also allowed reduced cruising in low-value stands.

Communications Branch launched a communications strategy during 1998/99 to inform a variety of audiences about the ministry's efforts to streamline the Forest Practices Code. An important challenge of the

program was to assure the public, environmental groups and other stakeholders — in B.C., across Canada and internationally — that the streamlining does not compromise the code's tough environmental standards.

Continuing to meet job-creation and resource-renewal commitments under the Jobs and Timber Accord and the Forest Action Plan

Policy and planning work under this objective included support by Economics and Trade Branch to the ministry executive on Job Protection Commission issues. Corporate Policy and Planning Branch tracked and coordinated the ministry's commitments under the Jobs and Timber Accord and monitored the implementation of ministry responsibilities under the Accord. The branch also provided legislative support on the Accord to the minister during budget debates and developed legislative amendments to:

- allow community forest pilot projects and agreements, and
- subject to the submission of an acceptable job-creation plan, allow the Minister of Forests to reinstate the automatic 5 per cent tenure reduction upon transfer of an agreement under the *Forest Act* or change in control of a corporation that holds a *Forest Act* agreement.

Aboriginal Affairs Branch participated in the implementation of the Jobs and Timber Accord. Working with the First Nations Summit and the Union of B.C. Indian Chiefs, the branch explored ways within the Accord to expand the employment capacity of First Nations and create job opportunities for First Nations communities. The branch helped develop — and will monitor and evaluate — a pilot community forest tenure to allow communities and First Nations to participate directly in forest management, under legislation introduced in 1998.

In helping the ministry meet this strategic objective during 1998/99, the Aboriginal Affairs Branch also:

- developed and delivered information on other forms of tenure (e.g., the Woodlot Licence Program, the SBFEP, and joint ventures) to encourage First Nations participation in the forest sector, and
- continued to support the Forest Technician Training Program at the Nicola Valley Institute of Technology in Merritt. The branch developed this program in partnership with the Council of Forest Industries of B.C. Based on the success of the first pilot session in 1997, Forest Renewal BC continued its funding for both classroom component and field work.

Forest Practices Branch completed policy work to address Jobs and Timber Accord issues related to cutblock size, stand density management, multi-area/multi-year silviculture prescriptions for minor salvage operations, the use of temporary access structures, and green-up. It also completed revisions of the Operational Planning, Silviculture Practices, and Timber Harvesting Practices regulations that were needed to fully implement the Accord.

The Research Program continued during 1998/99 to make indirect contributions to helping the ministry meet this strategic objective.

The Ministry of Forests' responsibilities under the Accord are to:

- achieve Standing Timber Inventory targets,
- sell the full apportionment of the Small Business Forest Enterprise Program and re-allocate 1 million cubic metres within the program to independent remanufacturers,
- review ways to increase the growth, yield and supply of wood,
- create new community forest tenures, and
- test innovative new forestry practices through Innovative Forest Practices Agreements (IFPAs) and Enhanced Forest Management Pilot Projects (EFMPPs).

The Jobs and Timber Accord

The Jobs and Timber Accord is a partnership between the government of B.C. and forest companies. The goals of the agreement, which was signed in June 1997 and runs until December 31, 2001, are to increase access to timber, increase investment in manufacturing and forest management, and create and sustain forest-sector jobs. These objectives are directly in line with the ministry's strategic and operational goals for 1998/99.

Improved scientific knowledge about the integrated management of forest resources helps ensure that timber supplies are not unnecessarily constrained and that important resource are protected. Program achievements in integrated management this year included:

- defining old-growth attributes and related management objectives,
- improving understanding of ecological processes at the landscape level, and
- refining biodiversity objectives for the variety of natural disturbances that occur across British Columbia.

Program research in forest genetics continues to provide the scientific foundation for gene conservation and management. This science gives credibility to B.C.'s efforts to achieve productivity gains through tree improvement, while maintaining a solid commitment to preserving genetic diversity.

The program also continued research to improve the scientific foundation for timber supply policy and harvest-level determination. Research included growth and yield field studies and model development, and refining silviculture treatments. The Old Growth Site Index Adjustment Project identified additional future growth potential in many of the province's old-growth forests, and these results are being incorporated into the current Timber Supply Review.

Operational Results

Closing the gap

One objective of the Jobs and Timber Accord and the Forest Action Plan initiatives is to close the gap between the actual major licensee harvest and the allowable annual cut (AAC). The Accord's goal is to have two years of cutting permits approved for licensees. This will give the industry more flexibility to plan its operations and market its products, while reducing planning and administration costs. In 1998/99, the first localized wood flow agreements were signed by Ministry of Forests district managers and licensees.

Business Improvement Branch provided support, coordination and funding for the Standing Timber Inventory Improvement Pilot Projects in ministry district offices around the province. The pilots were completed in 1999. They resulted in significant improvement in increasing Standing Timber Inventory.

Resource Tenures and Engineering Branch worked cooperatively with other government agencies to develop and implement the fibre flow agreements between the forest districts and major licensees.

The chief forester's AAC determinations are a pivotal element in meeting this ministry objective. To support the first and second Timber Supply Reviews, Resources Inventory Branch provided current, reliable inventory information, as well as improved tables and models for timber yield and for volume and decay calculations.

Quick Facts

Productive forest land in B.C. in TSAs and TFLs

1998/99: 46.7 million ha
1997/98: 45.8 million ha
Table 4

Quick Facts

Total crown area harvested

1998/99: 191,309 ha
1997/98: 154,474 ha
Table C-4

Streamlining operational planning requirements, including clarifying the Forest Development Plan approval process

Innovative Forest Practices Agreements (IFPAs) require forest companies to submit a Forest Development Plan to the ministry, after consulting with the public and other stakeholders on forestry and land-use planning initiatives. The Forest Development Plan must clearly demonstrate how innovative practices will increase forest productivity and create and maintain jobs. This ministry objective is designed to make the plans easier and less time-consuming for companies to prepare.

Corporate Policy and Planning Branch helped develop legislative amendments during 1998/99 to amend the content of woodlot licence provisions to avoid duplication of information between *Forest Act* management plans and Forest Practices Code Forest Development Plans. The branch also helped amend the Forest Practices Code regulations to establish the Woodlot Licence Forest Management Regulation. This regulation simplifies the operational planning requirements for woodlot licences and combines all woodlot licence-related provisions from the Forest Practices Code regulations into one.

The Standing Timber Inventory Improvement Pilot Projects with which Business Improvement Branch was involved during 1998/99 also dealt with the business processes behind Forest Development Plans. These projects successfully redesigned key components of the plans, such as silviculture prescriptions, cutting permits, logging plans, road permits, engineering estimates, special-use permits, road-use permits and licences to cut.

The December 1997 Supreme Court of Canada ruling on the *Delgamuukw* case established the existence of aboriginal title as a burden on underlying Crown title. The decision significantly changed the way the ministry consults with First Nations and the way the ministry makes forest development decisions. The revised Aboriginal Rights and Title Policy, which was issued in June 1999, applies to Ministry of Forests operational planning and approval processes. In 1998/99, Aboriginal Affairs Branch trained and guided regional and district operational staff on the revised policy. The branch also developed guidelines to help staff address aboriginal interests in operational planning processes.

Forest Practices Branch was the lead agency in standardizing the digital Forest Development Plan Template to increase efficiencies in operational plan submissions. During 1998/99, the branch released the first version of the template and developed a prototype of electronic submission standards so Forest Development Plans could be submitted and reviewed efficiently.

Information Management Group helped the ministry meet this objective by supporting the joint ministry/industry effort (led by Forest Practices Branch) to create a digital Forest Development Plan Template. The template is a major step in utilizing computer systems in the approval process to improve the efficiency and accessibility of the plans.

Quick Facts

Harvesting licences and agreements

1998/99:	5,644
1997/98:	5,661

Table C-6

Quick Facts

Area harvested by partial cutting

1998/99:	24,684 ha
1997/98:	34,689 ha

Table C-4

Small Business Forest Enterprise Program (SBFEP)

Each year, the SBFEP is allocated approximately 13 per cent of the provincial allowable annual cut, or some 9.3 million cubic metres (m^3) of Crown timber. The SBFEP sells this timber to individuals and corporations throughout the province.

The Jobs and Timber Accord introduced a number of changes to the program, which were designed to deliver more wood to small companies for value-added remanufacturing. Initiatives this year under the Forest Action Plan (e.g., the new Market Pricing system, and the Small Scale Salvage Initiative) take those improvements further.

There are approximately 2,000 individuals and corporations currently registered in the SBFEP. Over the next five years, through the SBFEP, the Forest Service will sell 50 million m^3 of timber and reforest the harvested areas with some 125 million seedlings.

Increasing the amount of timber available

Ministry activities under this objective during 1998/99 included changes to the Small Business Forest Enterprise Program (SBFEP) to allow small-business operators to hold forest licences and get their wood out more quickly. Previously, companies participating in the program were not permitted to hold forest licences.

The ministry also supported B.C.'s value-added and independent wood manufacturing sectors by:

- introducing Small Business 2000 in May 1998, to increase the wood supply to independent remanufacturers — essential to market diversification — as set out in both the Forest Action Plan and the Jobs and Timber Accord,
- introducing the Small Scale Salvage Initiative to stimulate small-scale salvage, and
- amending the Advertising, Deposit and Disposition regulation to reduce the maximum security deposit for larger, longer-term timber supply licences from $200,000 to $75,000.

The ministry awarded 47 bid proposal timber sales in 1998/99. Proponents estimated that those sales would trigger nearly $30 million in new capital investment and create 683 new secondary processing jobs.

As directed by the Minister of Forests, the SBFEP directed 1 million cubic metres (m^3) of timber to Section 21 bid proposal sales, effective April 1, 1998. A further 1.5 million m^3 of tree farm licence timber is also being redirected to Section 21 sales, for a total addition of 2.46 million m^3 of Crown timber going to value-added manufacturing.

Under the Jobs and Timber Accord, the SBFEP made a commitment to sell 2.1 million m^3 of identified undersold volumes over four years. In 1998/99, the program established an aggressive target of 957,616 m^3, or just less than half of the total volume. By the end of March 1999, the SBFEP had achieved 96 per cent of its annual goal, or 914,969 m^3, and was well on its way to meeting its undersold commitments.

The SBFEP has dedicated a portion of its volume specifically to small-scale salvage operations (generally of less than 500 m^3), through the Small Scale Salvage Initiative, which was announced by the Resource Tenures and Engineering Branch on January 1, 1999. The initiative set rates for these sales at half of the District Value Index. Early indications are that the program will meet or exceed salvage sales targets.

Aboriginal Affairs Branch provided input into the review and evaluation of proposals for forest licences offered under the SBFEP. The branch review evaluated the proposals for compliance with the ministry's Aboriginal Rights and Title Policy. Specifically, proposals were assessed on their approach to consultation with First Nations, protection of cultural heritage resources and archaeological sites, and aboriginal participation in the forest sector.

Throughout the year, Communications Branch provided support for the Forest Action Plan, Small Business 2000, the Small Scale Salvage Initiative, and the legislative amendments to the Woodlot Licence Program regulations. That support included:

- communications strategy, planning and counsel, and

- information to the public, the media, educational institutions and organizations, government agencies and staff, the forest industry, workers, communities, First Nations, and environmental organizations.

Implementing a new pricing system

In response to concerns from the value-added and independent wood manufacturing sectors that the pricing of Small Business Forest Enterprise Program (SBFEP) timber sales were not responsive enough for market conditions, the ministry introduced a two-step Market Pricing System on January 1, 1999. The new pricing system relies on competitive bidding to establish the final rate paid for most Crown timber sold by the SBFEP. It will increase the sensitivity of timber pricing to current market conditions to independent loggers, sawmills and value-added producers.

The new system had an immediate impact: refused sales declined to 4 per cent of tendered volume by the end of the fourth quarter in 1998/99, from the previous three-quarter average of 14 per cent. In its first quarter, the new system appeared to reflect log and lumber price swings as dictated by the market. There was a 36 per cent reduction in the SBFEP billed rate over that recorded for the fourth quarter of 1997/98, which reflected a substantial drop in North American lumber prices.

Economics and Trade Branch developed and tested the statistical models that formed the basis of the Market Pricing System.

Resource Tenures and Engineering Branch worked with Economics and Trade and Revenue branches in developing the Market Pricing System. The branch negotiated with client groups to develop and improve performance of the model.

Revenue Branch implemented and assumed responsibility for administering the new system, and Information Management Group developed the computer platform on which it runs.

Communications Branch supported the new Market Pricing System with a range of communications strategies, programs and information to make sure that the public and stakeholders understood the new system.

Developing community forest tenures

Establishing pilot community forest tenures is another important provision of the Jobs and Timber Accord. Designed to test new approaches to community stewardship of forest resources, these pilot projects increase direct community participation in management of local forests and help create sustainable jobs.

The project is a direct response to the request by many communities for more local control over harvesting and forest management, specifically to:

- sustain local manufacturing businesses,
- create jobs for young people,
- help launch new ventures (e.g., value-added manufacturing), and
- preserve forest attributes such as visual quality, recreation opportunities, and environmental integrity.

A Community Forests Advisory Committee was appointed in December 1997, including repre-

Quick Facts

Small Business Forest Enterprise Program net revenues

1998/99:	$77.6 million
1997/98:	$203.4 million

sentatives from the Union of British Columbia Municipalities, industry, environmental groups, forest workers and First Nations, as well as other individuals with expert knowledge about community forests and community forest management. The committee was responsible for developing tenure recommendations and criteria for selecting pilot projects, and for making recommendations on pilot sites.

In July 1998, the legislation to implement and test area-based Community Forest Agreements was passed. By March 1999, 27 communities and First Nations from across B.C. had submitted proposals outlining how they would manage local forests. Proposals from the Bamfield, Fort St. James, Burns Lake, Alkali Lake, Queen Charlotte Islands (Haida Gwaii), Comox Valley and Nelson areas were successful.

The development of community tenures and the launch of the pilot projects required the cooperative efforts of several branches in the ministry. Corporate Policy and Planning Branch launched the Community Forest Program. As the secretariat to the Community Forests Advisory Committee, it provided policy development support and worked cooperatively with ministry executive to develop the legislation for area-based Community Forest Agreements. Resource Tenures and Engineering Branch helped develop the Request for Proposals for community forest pilot projects and took over the program once proposals were received. Aboriginal Affairs Branch provided advice and encouragement to First Nations groups interested in competing for this type of tenure. The branch also helped evaluate proposals and made recommendations.

Testing new forest management strategies

Innovative Forest Practices Agreements (IFPAs) and Enhanced Forest Management Pilot Projects (EFMPPs) arise from the ministry's commitments under the Jobs and Timber Accord. Both initiatives are aimed at finding new forest management arrangements and increasing the productivity of the forest land base. Under either type of agreement, companies may apply to Forest Renewal BC for project funding.

Under IFPAs, which may run for as long as 15 years, companies undertake alternative forest management practices in harvesting and enhanced forestry. The goals of the agreements are to maximize the yield of B.C.'s forest land within the allowable annual cut and increase employment in the forest sector.

EFMPPs test dynamic local forest management strategies, with an emphasis on increasing timber production.

One IFPA was signed during 1998/99 with licensees in the Arrow Timber Supply Area (Nelson Forest Region), bringing the total of signed IFPAs to four. The Office of the Jobs and Timber Accord Advocate will monitor the pilot projects and assess them after five years of operation — or earlier, if appropriate — to determine how effectively they meet the goals of the Jobs and Timber Accord and the Forest Action Plan.

In support of this objective during 1998/99, Corporate Policy and Planning Branch coordinated and

Quick Facts

Seedlings planted

1998/99:	206.0 million
1997/98:	231.3 million

Table C-14

Quick Facts

Total area planted

1998/99:	169,028 ha
1997/98:	188,887 ha

Table C-16

provided secretariat expertise for EFMPP initiatives.

Aboriginal Affairs Branch provided counsel to First Nations that entered into partnerships with IFPA licensees in the Kamloops Forest Region.

Resource Tenures and Engineering Branch worked with IFPA holders during 1998/99 to develop a broader timber supply area approach to management, involving partnerships of all licensees, the Small Business Forest Enterprise Program, and representatives of First Nations.

Forest Renewal BC, as the funding agency, requires that new forest management strategies be tested through an adaptive management process. Forest Practices Branch therefore:

- developed and promoted the concept of adaptive management as it applies to projects such as IFPAs and EFMPPs,
- developed adaptive management training, and
- provided support for several adaptive management field projects, ranging from stand- to landscape-level.

Tree Improvement Branch and the Research Program partnered with the British Columbia Forest Genetics Council and Forest Renewal BC to continue to deliver the Tree Improvement Program during 1998/99. This program, which enhances short- and long-term timber supply by increasing production of genetically improved and resistant seed and seedlings, is a fundamental element of innovative forest management strategies. The Tree Improvement Branch and the Research Program also reviewed and substantially revised the Interior Select Seed Planning Zones, and Tree Improvement Branch developed digitized maps of the zones. The branch also provided information on Select seed and on the seed production needed for developing an IFPA.

The Research Program has an on-going role to provide advice to regional forest managers about growth and yield projections arising from IFPAs. A program representative sits on the steering committee for EFMPPs and chairs the Technical Advisory Committee. The program also provided support for adaptive management field projects.

Communications Branch created a communications strategy for the ministry's community forest tenures legislation and pilot program. Support included producing, distributing and publicizing comprehensive information about the program and the pilot projects that were subsequently set up across the province.

Working with Forest Renewal BC on Multi-Year Agreements

Forest Renewal BC introduced Multi-Year Agreements in 1997/98 to increase flexibility in managing projects, encourage long-range project planning, and reduce administrative red tape for major licensees. The Ministry of Forests works closely with Forest Renewal BC to develop and implement the planning and delivery systems for these agreements.

This year, Corporate Policy and Planning Branch developed and implemented Standards Agreements with Multi-Year Agreement holders to maintain forest practices standards. The branch also initiated resource management planning to guide Multi-Year Agreement investments.

Quick Facts

Brushing on Crown land

1998/99:	82,386 ha
1997/98:	79,262 ha

Table C-19

Resources Inventory Branch coordinated the development of the Standards Agreements with Multi-Year Agreement holders. The branch also wrote forest inventory schedules for the agreements.

Streamlining the Forest Practices Code and maintaining environmental standards

During 1998/99, two of the ministry's main priorities for bringing down logging costs were to reduce stumpage rates (see next section) and streamline the Forest Practices Code.

To move toward a results-based code, the ministry made changes to operational planning and to forest road, silviculture and timber harvesting practices to:

- reduce the number of operational plans from six to three,
- cut paperwork by half,
- eliminate unnecessary reviews and uncertainty around plan approvals,
- ensure that strict environmental standards are maintained for timber harvesting, and
- improve enforcement of the code.

At the same time, the ministry strengthened protection of biodiversity with the code's new *Landscape Unit Planning Guide*. This technical manual provides direction and advice on the amount of old-growth and the number of wildlife trees to conserve within the province's various forested ecological zones. As these guidelines are adopted, the Forest Service and the Ministry of Environment, Lands and Parks will continue to work with the forest industry, environmental groups, First Nations and other stakeholders to ensure that the province's biodiversity is maintained and that costs are carefully managed.

The Forest Practices Code continues to evolve as an effective tool for sustainable resource development. The shift toward monitoring for end results places greater emphasis on the professional forester's judgement and quality of work, and will lead to more professional accountability.

In support of this objective, Corporate Policy and Planning Branch helped develop legislative amendments during 1998/99 to:

- eliminate burning permits, replacing them with new requirements and procedures in regulation, thereby reducing the administrative burden and costs associated with issuing burning permits,
- strengthen the regulation-making authority to ensure that the Forest Practices Code streamlining amendments made in 1997 could be properly implemented, and
- enable funds to be expended from the Environmental Remediation sub-account to defray the costs of complex code contravention investigations and some fire suppression costs.

The branch also helped amend the Forest Practices Code regulations to:

- provide relief for licensees from potential spacing obligations, by setting the default for maximum density at 10,000 stems per hectare for all current and future silviculture prescriptions,
- simplify and streamline the process related to green-up requirements,
- for a two-year period, enable the district manager or a designated environment official to exempt a person from the requirement to have a watershed assessment completed before a Forest Development Plan is made available for public review, and

Quick Facts

Spacing on Crown land

1998/99:	29,638 ha
1997/98:	48,993 ha

Table C-14

- simplify and clarify the requirement for field assessments, and for road layout and design to be carried out by a "qualified registered professional."

Compliance and Enforcement Branch is responsible for promoting compliance by industry and the Forest Service with forest and range legislation. One aspect of that mandate is to enhance the enforceability of the legislative framework, so the branch provides advice on and support for a wide range of legislative amendments. In 1998/99, those included:

- a new, more results-oriented Timber Harvesting Practices Regulation, introduced in June 1998, followed by new Operational Planning and Silviculture Practices regulations,
- consolidation of the administrative review and appeal processes for the *Forest Act* and the *Range Act* to make these processes the same as that of the *Forest Practices Code of British Columbia Act*, and
- a new Delegation Regulation, which enables district managers to delegate certain authorities under the *Forest Practices Code of British Columbia Act*, while ensuring that the planning process remains intact.

Forest Practices Branch is leading ministry efforts under this objective. It provides expert advice and technical support to the regions and districts on streamlining the Forest Practices Code. It also serves as the ministry's liaison with the Forest Practices Board and provides guidance and briefings for operational staff and the executive on Forest Practices Board audits and compliance and special investigations. Finally, the branch prepares responses, on behalf of the ministry, to the work, findings and recommendations of the Forest Practices Board.

To help the ministry meet its code objective this year, Tree Improvement Branch implemented new seed planning zone boundary changes for British Columbia's Interior.

The Research Program contributed scientific advice and research findings to the evaluation of Forest Practices Code changes in the areas of biodiversity, stand density management, and green-up.

Reducing stumpage rates

As planned, the ministry announced in May 1998 that it would reduce stumpage rates — the fees for harvesting timber on Crown land — on June 1, 1998, to help restore the forest industry's competitiveness. Stumpage was lowered by an average of $8.10 per cubic metre ($m^3$) on the Coast and $3.50/$m^3$ in the Interior.

The reduction followed a thorough re-examination of the cost assumptions underlying the timber pricing system, and it offset some unanticipated logging cost increases since 1994, largely related to requirements of the Forest Practices Code.

The stumpage formula was also changed to include chip prices. Historically, overall stumpage rates were based on lumber prices only. Rates continue to be set quarterly. Under the new formula, they will be more responsive to chip and lumber price fluctuations.

Stumpage policies are updated in consultation with individual licensees, forest industry associations, and other

interested parties through the Interior Appraisal Advisory Committee and the Coast Appraisal Advisory Committee.

Economics and Trade Branch, working with Revenue Branch, helped develop the rationale for the stumpage reduction. The branch also prepared the explanation to the United States with respect to the Canada/U.S. Softwood Lumber Agreement.

Supporting the Mandate

Encouraging resource sustainability

The Ministry of Forests is the main agency responsible for stewardship of B.C.'s rich and diverse forest resources. It is the only agency responsible for defining and achieving a balance between the economic and social needs of British Columbians and the need to maintain the environmental integrity of forest and range lands in perpetuity. In response to these growing and evolving challenges, the ministry continues to improve its knowledge base and planning capacity to ensure sound stewardship of the province's forest and range resources. Managing the provincial forest for a broad range of uses, the Forest Service ensures the sustainable use of the resources in a variety of ways. It conducts Timber Supply Reviews, oversees reforestation and protects the forest and range resource from threats such as fire, insects and disease.

Compliance and Enforcement Branch oversees more than 400 staff working throughout the province on a wide range of compliance and enforcement activities that encourage resource sustainability. In 1998/99, the branch completed 43,765 harvesting and road inspections. Of those, 42,433, or 97 per cent, were found to be in compliance.

Cultural values are among the non-timber values for which the Forest Service manages the provincial forest. Aboriginal Affairs Branch provides ongoing counsel and guidance to help the ministry manage for cultural values in a manner that is not only sustainable, but sensitive to the interests of First Nations and others.

Forest Practices Branch is central to the chief forester's work in sustainable forest management for provincial timber, range and recreation resources. The branch prepares, updates, assesses and refines all aspects of provincial forest planning, practices, policy and standards, within the context of the ministry's mandate.

The goal of Tree Improvement Branch is to enhance short- and long-term timber supply through increased production of Select seed and seedlings. In 1998/99, the branch developed and initiated 10-year plans to double the average volume gain of genetically improved seed, from the current 6 per cent to 12 per cent, and to increase Select seed use to 75 per cent. This will result in a long-term harvest-level increase that was estimated (in 1998 by the Fibre Target Task Group) at 5 million m^3. During 1998/99, the mean genetic worth of Select reforestation material rose by nearly 1 per cent. Select seed use rose by 8 per cent province-wide.

The Research Program works to improve the scientific foundation for sustainable forest practices in such areas as hydrology, soils, terrain stability, forest ecosystem

Quick Facts

Average stumpage prices

1998/99:	$19.10/$m^3$
1997/98:	$27.55/$m^3$

Table C-1

management, and stand density management. Information is derived from many sources, including valuable long-term integrated research studies. Information is used to provide timely and reliable advice to forest managers and update forest practices guidebooks and all course content for training operational staff. Improved site productivity information also supports decisions about timber supply sustainability. Research Program scientists played a significant role in the cooperative ministry/industry development of *Guidelines for Developing Stand Density Management Regimes.*

Forestry Division Services Branch supported this objective through 1998/99 by ensuring that changing government needs and priorities were incorporated into the ministry's business and planning processes.

Information Management Group provided a senior resource person during 1998/99 to work with the Canadian Forest Service on criteria and indicators. These are critical components for measuring resource sustainability.

In support of this objective, Communications Branch published, distributed and publicized the ministry's new *Landscape Unit Planning Guide.* The *Guide* outlines the procedures required to conserve B.C.'s unique biodiversity, while keeping the effects on timber supply within provincially approved limits. The branch also provided communications planning and support for the ministry's newly developed Private Forest Lands regulations.

Practising planned and integrated resource use

Effective stewardship of forest- and range-lands:

- considers the full range of the land's timber and non-timber resources and their abilities to be used sustainably,
- considers social, economic and environmental values, needs and objectives,
- identifies and compares alternative priorities,
- assigns resource-use and management priorities, based on the relative merits of various resource uses,
- produces a picture of resource uses and priorities for large areas, and
- selects the best uses for the present and schedules resource-use change over time.

The first step in practising integrated resource management is collecting information on all resources.

The Forest Service manages and protects outdoor recreation resources, which include cultural heritage landmarks. Aboriginal Affairs Branch manages the Traditional Use Study Program for the province, which identifies, records and assesses aboriginal traditional use sites. It also deals with areas that have significance to traditional, ceremonial and food-gathering activities of aboriginal groups. These studies help accommodate aboriginal land interests and encourage aboriginal participation in resource management. Benefits for forestry and other resource management include greater stability, the opportunity for Crown agencies to address documented land issues of concern to aboriginal groups, reduced planning and referral times, and im-

proved communication among local First Nations, the Forest Service and the forest industry.

Working in partnership with Operations Division and the Ministry of Environment, Lands and Parks, Forest Practices Branch finished and released key documents for landscape-unit planning and the Identified Wildlife Management Strategy. Under visual objectives, the branch completed the Visual Landscape Management Strategy to mitigate the negative effects of timber harvesting.

The branch contributed to the ministry's integrated use objective this year in several other ways, by:

- publishing the *Harvesting Systems and Equipment in B.C. Handbook*, the *Field Guide to Forest Damage in British Columbia*, and a primer on range and riparian remediation measures to support watershed restoration for fish, and
- planning and preparing the Vancouver Island gypsy moth eradication aerial spray program that covered 13,000 hectares on southern Vancouver Island in spring 1999.

Timber Supply Branch:

- began collecting the data necessary for timber supply analyses for 13 timber supply areas and 10 tree farm licences (by licensees),
- released data packages and information reports for 10 timber supply areas, and
- completed new allowable annual cut determinations and rationale reports for two timber supply areas and five tree farm licences. A temporary allowable annual cut increase was also implemented in one timber supply area to address fire salvage and mountain pine beetle attack.

During this year, Tree Improvement Branch and the Research Program developed a sound scientific basis and the necessary applications for gene conservation and gene management of Standard and Select reforestation materials. The branches also supported the chief forester in developing appropriate policy and forest practices for the use and distribution of seed for reforestation of Crown lands.

In support of this part of the ministry's mandate, Resources Inventory Branch developed Resource Inventory Committee standards for the collection of inventory information. This standardization will allow for cross-agency use. To help reduce uncertainty around timber supply and volume, the branch continued its work during 1998/99 to provide more accurate inventory information to the chief forester in support of allowable annual cut decisions.

Resources Inventory Branch also participated in cross-ministry and cross-government committees to plan inventory work and share collected data. This is increasingly important, as the branch continues to be the steward for greater volumes of data (e.g., integrated resource management planning, visual quality objectives, old growth, riparian areas, and cutblock adjacency).

The Research Program continues to refine ecosystem classification and mapping to increase their utility for integrated resource management planning. During 1998/99, the branch worked to improve scientific knowledge for the management of

old-growth and riparian areas. The branch also continued to support integrated resource management with new scientific knowledge in other ecological disciplines. Earth sciences research continues to provide information that is needed to maintain forest productivity, water quality, fish habitat, and terrain and stream stability.

In 1998/99, Forestry Division Services Branch oversaw a program evaluation of the South Moresby Forest Replacement Account, which supports enhanced forest management projects in the Queen Charlotte Islands with joint funding from Canada and British Columbia.

Encouraging an efficient and world-competitive forest industry

The ministry is involved in a range of other activities to promote and protect an efficient and competitive forest industry in B.C. Trade and aboriginal issues and international sustainability commitments are among those activities.

Under the Canada/U.S. Softwood Lumber Agreement, which was signed in 1996, British Columbia, along with Alberta, Ontario and Quebec, may export a total of 14.7 billion board feet of lumber a year to the U.S. free of export charges. Above that level, graduated export charges are levied. The Canadian government allocates this volume as export quotas among sawmills and remanufacturers in the four provinces involved. B.C.'s allocation is approximately 8.3 billion board feet. The present agreement expires on March 31, 2001, so the province is working with the Canadian government to find new ways to improve B.C.'s trade relations with the U.S. The province's goal is unconstrained access to the U.S. market. The ministry — directly and through the B.C. Softwood Lumber Advisory Committee — has devoted considerable time and effort to assessing the implications of the agreement and quota system on the B.C. industry, including the impact of quota allocations.

During this year, Economics and Trade Branch gave an operating grant of $1.65 million to Forintek Canada Corp., Canada's national wood products research institute. The branch also continued its work to maintain access to international markets by providing information to customers and others regarding forest management practices in British Columbia.

The Protection Program contributes to this ministry objective by protecting forest and range resources from damage and loses caused by fire. In 1998, Protection Branch and the Protection Program dealt with 12 fires that threatened and burned directly adjacent to B.C. communities, making it the worst interface-fire year to date. Weather was the main contributing factor in the severity of the fire season.

A credible Compliance and Enforcement Program provides a critical underpinning for the province's certification initiatives.

The Compliance and Enforcement Branch provided expert support, advice, or ad hoc counsel for seven Appeal Board hearings, seven appeals to the Forest Appeals Commission, and two Supreme Court of B.C. hearings during 1998/99. The branch also delivered basic law training to

Quick Facts

Range animal unit months of forage authorized

1998/99:	955,562
1997/98:	950,674

Table C-23

more than 350 ministry staff and advanced instruction in investigation and enforcement techniques to more than 90 Compliance and Enforcement staff. For the forest industry, the branch developed and delivered the course "Managing Risk Within a Statutory Framework."

During 1998/99, the ministry's business improvement function was transferred from the Business Design Branch to the new Business Improvement Branch, which completed a vision, high-level project plan, and investment strategy for the Continuous Improvement Initiative for Operations Division.

Establishing and maintaining cooperative relationships that respect First Nations' interests in forest resource management is a ministry priority. It directly affects wood flow, the provincial economy, and the stability of the forest industry and forest employment base. Aboriginal Affairs Branch works to bring about aboriginal participation in forest resource development through joint ventures and partnerships in which aboriginal people can acquire skills and training. This participation can also help reduce conflict over land use by accommodating aboriginal interests.

The branch continued its work in 1998/99 to help settle resource-use conflicts and involve aboriginal people in forest planning and development decisions, using Interim Measures Agreements and meetings with aboriginal groups, resource ministries and the forest industry. The branch helped the ministry develop treaty negotiation options for forest management practices. Those included forest management, forestry legislation, and forest practices for the Nisga'a negotiations.

The Range Program, through Forest Practices Branch, fulfills an important part of the ministry's mission, to protect B.C.'s range resources. It also has a major role in issuing tenures and collecting revenues, and it provides important support for the ranching industry. The program contributes to ongoing work on Forest Development Plans, the Forest Practices Code, and integrated resource management. It is also responsible for reviewing and developing amendments to the *Range Act*. During 1998/99, the program focused on:

- completing a provincial *Weed Program Assessment Report*,
- completing the first formal report of the Range Review Group to the ministers of Forests, Environment, Lands and Parks, and Agriculture, Food and Fisheries, and
- establishing 20 range reference areas and compiling a provincial *Range Reference Areas Atlas*.

Resources Inventory Branch developed a new inventory methodology, Vegetation Resource Inventory, to meet local, regional, provincial and national planning needs. The branch also continued its work to develop and maintain state-of-the-art growth and yield models for inventory prediction, and to convert mapsheets to the North American Datum (NAD) 83 terrain resource information management (TRIM) base.

Trees that grow faster, produce higher-quality wood and are more resistant to insects can improve industry competitiveness. During 1998/99, the Research Program and

Quick Facts

Primary biocontrol agent releases

1998/99: 50,718 insects
1997/98: 135,121 insects
Table C-22

Quick Facts

Hay-cutting permits and licences issued

1998/99: 113
1997/98: 110
Table C-24

Tree Improvement Branch collaborated in efforts to link genetic gains through tree breeding into growth and yield predictions for management units. Forest genetics researchers provided Tree Improvement Branch with information and access to tested materials for operational seed production. The Research Program also continued wood quality research on hemlock and larch, to assess the changes to tree growth from genetic improvement and intensive silviculture treatments.

Asserting the financial interests of the Crown

The Ministry of Forests is responsible for collecting revenues from forest and range resources, on behalf of the people of British Columbia. Those revenues totalled more than $1.2 billion in 1998/99.

Revenue Branch is central to this component of the ministry's mandate. Details of the branch's work in 1998/99 include:

- On June 1, 1998, stumpage rates were lowered by an average of $8.10 per cubic metre ($m^3$) on the Coast and by $3.50/$m^3$ in the Interior to reflect unanticipated costs of the Forest Practices Code.
- On January 1, 1999, the Market Pricing System was implemented for small-business sales.
- The Forest Action Plan, implemented in January 1999, included a temporary deferred stumpage initiative and an opportunity to pay stumpage in equal monthly installments. It also replaced interim billing with field scales, allowed for reduced cruising in low-value stands, and established allowable thresholds for waste and residue.
- *The Auditor General Phase II Report (Forest Credit Management Review)* concluded that the ministry has built strong controls into its credit management system. Fourteen recommendations were identified to help further improve the ministry's controls. Twelve of those recommendations have been incorporated into ministry practices and two are undergoing additional review.
- At March 31, 1999, accounts receivable were $424.6 million, which represents an increase of $65.8 million, or 18.3 per cent from the previous year. Accounts receivable over 84 days increased from $51.3 million to $72.9 million, or by 42.1 per cent. This increase is related to poor markets for forest products and the resultant financial difficulties in the forest sector.

It is estimated that theft of timber results in an annual loss of between $10 million and $20 million of revenue to the Crown each year. During 1998/99, Compliance and Enforcement Branch provided expert advice and support for more than 60 investigations that resulted in administrative and/or legal remedies.

Forest Practices Branch developed a revenue proposal for Treasury Board during 1998/99 to introduce user fees at Forest Service recreation sites and trails. The branch also completed the necessary amendments to the Forest Recreation Regulation to implement the user fees.

Information Management Group successfully completed the 1998/99 phase of the ministry's Year 2000 Compliance Plan. This was critical to ensure that all ministry business

Quick Facts

Wildfires

1998/99:	2,662
1997/98:	1,161

Table D-1

Quick Facts

Area burned by wildfires in B.C.

1998/99:	71,769 ha
1997/98:	1,870 ha

Table D-2

Quick Facts

Cost of direct fire fighting*

1998/99:	$153.8 million
1997/98:	$19.0 million

Table 2

*Net of recoveries

systems, including revenue collection, will work smoothly through the transition.

Strategic and Corporate Objectives for 1999/00

The Ministry of Forests will continue to work during 1999/00 on the short- and long-term components of the Forest Action Plan, making more timber available at fair market cost to value-added manufacturers, and continuing to align government policies with market realities.

Specifically, short-term stabilization measures will include:

- making utilization standards more flexible to better reflect market values of marginal timber,
- streamlining administrative requirements, such as having standardized planning templates to help industry and government be more efficient and results-oriented,
- continuing to work with Forest Renewal BC on more efficient planning and delivery of the corporation's land-based investments,
- adjusting billing procedures to recognize the seasonal nature of logging in B.C., and
- providing $100 million in funding over the next two years to support forest communities in transition and deliver re-employment services to forest workers.

Over the long-term, the Office of the Jobs and Timber Accord Advocate will lead the forest policy review, which will involve extensive consultations with forest stakeholders and the public. The goal is to identify policy and management options that support a globally competitive industry, attract new investment, create more value-added opportunities, promote stronger community participation, and promote world-leading environmental standards.

The ministry will also continue to:

- refine the provincial resources inventory in order to set sustainable allowable annual cuts,
- fine-tune the effectiveness and efficiency of the Forest Practices Code, focusing on results and on shifting more hands-on planning and stewardship accountability to forest professionals on the ground,
- explore innovative forest management practices through pilot projects in different areas of the province, and
- work to resolve land-use issues through land-use planning, and through Interim Measures Agreements and treaty negotiations with First Nations.

For 1999/00, within the broader goals of continuing to protect and create jobs and conserve and protect the environment, the Ministry of Forests' strategic objectives will be to:

- ensure stewardship of the forest and range resources,
- support forest-sector employment and community stability,
- enhance industry competitiveness, and
- meet fiscal targets and refine business practices.

1998/99 Resources

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Detailed Statistical Tables are available at www.for.gov.bc.ca

1998/99 Summary Financial and Statistical Tables

NOTE: In all tables in this report, a dash (–) equals zero.

TABLE 1: REVENUE IN 1998/99, BY CATEGORY, BY OFFICE OR FOREST REGION

OFFICE OR REGION	CARIBOO	KAMLOOPS	NELSON	PRINCE GEORGE	PRINCE RUPERT	VANCOUVER	VICTORIA	TOTALS
	$000							
CATEGORY								
Stumpage[1] (major licensee)	$103,741	$113,214	$35,216	$294,704	$94,986	$323,326	$982	$966,169
Harvesting rents and fees	2,001	1,944	1,424	3,438	2,084	5,821	(57)	16,656
Small Business Forest Enterprise Program[1]	21,772	36,370	24,897	52,910	26,458	57,043	245	219,695
Export fees	–	–	4	1	99	1,558	–	1,662
Range fees	579	645	158	293	69	4	3	1,750
Waste	454	638	249	3,665	630	5,920	7	11,563
Penalties	79	16	68	535	130	276	(356)	747
Interest	507	357	547	3,404	2,726	809	239	8,588
Miscellaneous	25	49	41	697	4,069	531	(3,810)	1,603
TOTALS	**$129,158**	**$153,234**	**$62,605**	**$359,647**	**$131,250**	**$395,288**	**($2,748)**	**$1,228,433**

[1] Major stumpage and Small Business Forest Enterprise Program include amounts transferred to Forest Renewal BC.

Figures may not add due to rounding.

TABLE 2: EXPENDITURES AND FULL-TIME EQUIVALENTS (FTEs)[1] IN 1998/99, BY SOURCE OF FUNDS

		EXPENDITURE	
		ESTIMATES	ACTUAL
		$000	
SOURCE OF FUNDS			
VOTE 44: MINISTER'S OFFICE			
A. Minister's Office		$436	$428
TOTAL VOTE 44		**436**	**428**
VOTE 45: MINISTRY OPERATIONS			
B. Corporate Services (net of recoveries)		27,438	34,604
C. Forest Resource Management (net of recoveries)			
1. Headquarters Resource Management		58,802	47,344
2. Region and District Operations		172,094	169,148
TOTAL VOTE 45		**258,334**	**251,096**
VOTE 46: FIRE SUPPRESSION			
D. Direct Fire Fighting (net of recoveries)		153,820	153,820
E. Fire Preparedness (net of recoveries)		42,884	40,237
TOTAL VOTE 46		**196,704**	**194,057**
TOTAL VOTED		**455,474**	**445,581**
Special Accounts – Statutory			
Interest on Revenue Refunds		343	343
F. Forest Stand Management Fund		1,200	378
G. SBFEP[2]	$213,149		
Less transfer to General Account	(71,057)	142,092	142,092
H. South Moresby Implementation Forest Replacement		1,501	1,463
TOTAL SPECIAL ACCOUNTS – STATUTORY		**145,136**	**144,276**
TOTALS		**600,610**	**589,857**
Tangible Capital Assets		(4,347)	(4,347)
Amortization Expense		7,008	7,008
TOTALS		**$603,271**	**$592,518**
		FTEs	
FTEs		**4,086**	**4,085**

[1] The concept of full-time equivalent (FTE) is based on the normal working hours of one full-time employee for a one-year period (1,827 hours) and is used to account for all personnel on a similar basis.

[2] Small Business Forest Enterprise Program.

Amounts shown reflect the final allocation for the year and include all transfers approved by Treasury Board and the ministry Executive during the year.

Table 3: Expenditures in 1998/99, by Category, by Office or Forest Region

OFFICE OR REGION	CARIBOO	KAMLOOPS	NELSON	PRINCE GEORGE	PRINCE RUPERT	VANCOUVER	VICTORIA	TOTALS
				$000				
CATEGORY								
Salaries and benefits	$22,217	$27,353	$25,669	$33,339	$23,724	$38,903	$114,929	$286,134
Professional services	9,233	17,112	11,609	21,041	15,586	25,878	55,139	155,598
Other expenses	6,812	10,039	9,060	8,868	14,562	15,923	85,522	150,786
TOTALS	**$38,262**	**$54,504**	**$46,338**	**$63,248**	**$53,872**	**$80,704**	**$255,590**	**$592,518**

Table 4: Productive Forest Land[1] in 1998/99 in Timber Supply Areas[2] and Tree Farm Licences[3], by Forest Region

TYPE	MATURE TIMBER[4]	IMMATURE TIMBER[4]	NOT STOCKED[5]	TOTALS
		000 hectares		
REGION				
Cariboo	3,336	1,983	288	5,606
Kamloops	2,643	1,710	202	4,555
Nelson	1,375	1,833	175	3,383
Prince George	9,852	6,414	1,526	17,792
Prince Rupert	6,788	2,053	468	9,309
Vancouver	3,903	1,962	166	6,031
TOTALS	**27,896**	**15,954**	**2,826**	**46,676**

[1] Source: 1998/99 Resources Inventory Branch reports. Includes only productive forest land where timber harvesting is restricted partly or wholly by factors such as timber quality, accessibility and environmental sensitivity. Excludes:

- Crown forest land in timber licences,
- all private land that is not part of a tree farm licence (TFL),
- all federal land, and
- non-productive and non-forest lands.

The province's total area is 95.2 million hectares (updated from the *1994 Forest, Range and Recreation Resource Analysis*, Ministry of Forests).

[2] A timber supply area (TSA) is an area of the province designated by the Ministry of Forests for the purpose of analysis, planning and management of timber resources. Boundaries have been determined on the basis of present and expected population centres, transportation networks, manufacturing facilities, and existing administrative boundaries. TSA report data are derived from the latest assembled data files produced by the Resources Inventory Branch as of April 1999.

[3] A TFL is a privately managed, sustained-yield unit in which the Crown adds forest land to the company's private holdings (if any) sufficient to provide a continuous supply of wood for an existing or planned mill. The private and Crown lands comprising the licence are described as Schedule A lands or Schedule B lands. Schedule A lands are Crown-granted lands (privately owned lands), or Crown lands with timber alienated (such as licences, leases and timber berths) which are now included in the licence area. Schedule B lands are Crown lands on which the timber is fully committed by the province to the licensee. TFL report data are derived from the management plans of the licensees, except for:

- TFL 47's Mature figure includes licensee categories of Old Growth and Inoperable. Immature includes the licensee category Deciduous.

[4] Stands with lodgepole pine and whitebark pine or deciduous species as the leading species are immature if the stand age is 80 years or less; when the stand age is greater than 80 years, the stand is mature. Otherwise, all stands with conifers other than lodgepole pine and whitebark pine as the leading species are immature when the stand age is 120 years or less; when the stand age is greater than 120 years, the stand is mature.

[5] Not-Stocked Productive Forest Land. Includes areas (Current and Pre-1982 Backlog) that were disturbed by harvesting, wildfire or other causes, and were not satisfactorily restocked. Anticipated regeneration delay may be between one and seven years on current lands that are not satisfactorily restocked. This also includes non-commercial areas, either covered with commercial tree species, or at least 60 per cent covered with brush that is higher than one metre.

Table 5: Deletion of Land from Provincial Forests in 1998/99, by Forest Region

	DESIGNATED USE OF LAND DELETED						
	AGRICULTURE	INDUSTRY AND TRANSPORTATION	PARKS AND RECREATION*	COMMERCIAL	RESIDENTIAL	OTHER	TOTALS
	hectares						
REGION							
Cariboo	259.33	11.15	–	9.93	11.08	–	291.48
Kamloops	1.50	–	–	1.02	3.00	–	5.52
Nelson	19.20	–	–	–	–	0.03	19.23
Prince George	1,076.90	10.36	1.64	6.58	0.40	–	1,095.88
Prince Rupert	129.60	–	–	–	0.20	–	129.80
Vancouver	–	–	–	–	144.00	14.80	158.80
TOTALS	**1,486.53**	**21.51**	**1.64**	**17.53**	**158.68**	**14.83**	**1,700.72**

Established under section 5(1) of the *Forest Act*.

* New parks (protected areas), established under the *Park Act*, which lie within provincial forests have not yet been excluded from the provincial forests. Approximately 1 million hectares of provincial forest land had designated park status as of March 31, 1999.

Table 6: Changes in the Not Satisfactorily Restocked (NSR)[1] Crown Land in 1998/99[2]

	BACKLOG[3]		CURRENT REFORESTATION[4]			
RESPONSIBILITY	MINISTRY	MINISTRY	MINISTRY	SBFEP[5]	MAJOR LICENSEES	TOTALS
YEAR OF DENUDATION	PRE-82	1982-87	POST-87 (OCT. 1/87)	POST-88 (JAN. 1/88)	POST-87 (OCT. 1/87)	
	hectares					
CHANGES						
TOTAL NSR (END OF 1997/98)[6]	**175,199**	**103,589**	**23,018**	**38,234**	**423,444**	**763,484**
Additions in NSR in 1998/99 due to:						
Harvesting, fire and insects[8]	10,850	685	532	13,839	106,371	132,277
Plantation failures	2,119	2,114	442	717	2,381	7,773
Natural regeneration failure	1,316	869	309	318	764	3,576
TOTAL ADDITIONS TO NSR	**14,285**	**3,668**	**1,283**	**14,874**	**109,516**	**143,626**
Reductions to NSR in 1998/99 due to:						
Planting[9]	5,105	6,572	1,073	12,383	120,049	145,182
Natural regeneration	12,617	6,240	367	5,005	33,874	58,103
Reclassification of NSR to NP[10]	6,856	5,711	201	800	3,016	16,584
TOTAL REDUCTIONS TO NSR	**24,578**	**18,523**	**1,641**	**18,188**	**156,939**	**219,869**
TOTAL NSR	**164,906**	**88,734**	**22,660**	**34,920**	**376,021**	**687,241**
NET DECREASE IN NSR IN 1998/99	**10,293**	**14,855**	**358**	**3,314**	**47,423**	**76,243**

Includes accomplishments under all funding sources. Ministry annual reporting is based on data in ministry information systems as of February 29, 2000. Where data is incomplete or delayed, numbers reported may underestimate actual accomplishments.

Footnotes continue on next page

TABLE 6, CONTINUED

[2] The information in this table does not include 1.8 million hectares of Not Stocked areas that are included in the Inventory summary on NSR in Table 4. The inventory database is on a two-year update cycle. Therefore, much of the 1.8 million hectares is still classified as non-commercial brush or non-commercial timber, even though natural regeneration is in progress on many of the areas, as reflected in this table.

[3] Backlog obligation categories, below, are based on the responsibility for reforestation to the free-growing stage.

Ministry, Pre-82:	A large portion of Good and Medium Sites in this obligation category was treated under the Canada - B.C. Partnership Agreement on Forest Resource Development (FRDA I), 1985 - 1990.
Ministry, 1982-87, All Sites:	Includes areas under the (then-named) Small Business Enterprise Program which were cut prior to January 1, 1988, and major licensee areas cut prior to October 1, 1987. These areas are considered "outstanding obligations," as of August 1996, for treatment under the Backlog Reforestation Program funded by Forest Renewal BC.

[4] Current obligation categories, below, are based on the responsibility for reforestation to a free-growing stage, by law, within an acceptable period of time.

Ministry, Post-87, All Sites:	The Ministry remains responsible for basic silviculture on all areas denuded by fire or insects.
SBFEP, Post-88, All Sites:	Basic silviculture on areas denuded under the Small Business Forest Enterprise Program (SBFEP) after January 1, 1988 is funded by the SBFEP account and implemented by the Ministry of Forests.
Major Licensees, Post-87, All Sites:	Basic silviculture on areas denuded by major licensees after October 1, 1987 is funded by major licensees. Licensees have approximately six to seven years to reach the basic silviculture requirement through natural regeneration, or about three to four years through planting, as specified in the silviculture prescription.

[5] Small Business Forest Enterprise Program.

[6] Adjustments to NSR figures reported in the *1997/98 Annual Report* can be summarized as follows:

Total NSR at the end of 1997/98:		752,532 ha
Late updates to the database:		
	Further decrease in NSR (Pre-87)	(5,673) ha
	Further increase in NSR (Post-87)	16,625 ha
	Total NSR at the beginning of 1998/99:	763,484 ha

[7] NSR resulting from logging is the net area to be reforested after harvest (excluding roads, landings and other non-productive areas).

[8] Openings caused by fire or insects refer to incidence in mature timber or in areas already classified as free growing. Fire and insect incidence prior to free growing is considered plantation or natural regeneration failure.

[9] Area planted does not equal the totals in Tables C-14 (Total Silviculture Accomplishments on Crown Land Funded by All Sources in 1998/99, by Forest Region) and C-16 (Area Planted in 1998/99, by Responsibility, by Forest Region) (available at: www.for.gov.bc.ca/[site address]), due to replants and fill plants that do not affect NSR status.

[10] NP is non-productive land. Reclassification to NP is done to account for roads, landings, swamps, rock outcrops, etc.

Detailed Financial Tables

TABLE A: MINISTER'S OFFICE EXPENDITURES IN 1998/99, BY CATEGORY OF EXPENDITURE

	TOTALS
	$000
CATEGORY	
Salaries and benefits	$399
Professional services	1
Other expenses	28
TOTAL	**$428**

Table B: Corporate Services Expenditures in 1998/99, by Office or Branch

	TOTALS
	$000
OFFICE OR BRANCH	
Deputy Minister's Office	$2,187
Assistant Deputy Minister - Revenue and Corporate Services	508
Assistant Deputy Minister - Operations	436
Executive Director - Policy and Economics	194
Audit Services Branch	647
Corporate Policy and Planning Branch	1,207
Economics and Trade Branch	4,181
Financial Management Branch	8,663
Human Resources Branch	2,164
Information Management Group	12,786
Communications Branch	1,631
TOTAL	**$34,604**

Table C: Forest Resource Management
I: Headquarters Resource Management Expenditures in 1998/99, by Office or Branch

	TOTALS
	$000
OFFICE OR BRANCH	
Aboriginal Affairs Branch	$2,146
Assistant Deputy Minister - Operations	897
Business Improvement Branch	328
Chief Forester's Office	615
Compliance and Enforcement Branch	1,370
Financial Management Branch	1,521
Forest Practices Branch	7,561
Forestry Division Services Branch	1,922
Nursery and Seed Operations Branch	2,045
Research Branch	8,267
Resource Tenures and Engineering Branch	5,653
Resources Inventory Branch	3,990
Revenue Branch	5,993
Timber Supply Branch	1,636
Tree Improvement Branch	3,400
TOTAL	**$47,344**

Table C: Forest Resource Management
II: Region and District Operations Expenditures in 1998/99, by Office or Forest Region

	TOTALS
	$000
OFFICE OR REGION	
Assistant Deputy Minister - Operations	$78
Assistant Deputy Minister - Operations Recoveries	(36,046)
Financial Management Branch	27,818
Information Management Group	10,730
Cariboo Region	21,900
Kamloops Region	26,495
Nelson Region	25,477
Prince George Region	31,857
Prince Rupert Region	23,296
Vancouver Region	37,541
Forest Jobs Commissioner	2
TOTAL	**$169,148**

Table D: Direct Fire Fighting Expenditures in 1998/99, by Activity, by Office or Forest Region

OFFICE OR REGION	CARIBOO	KAMLOOPS	NELSON	PRINCE GEORGE	PRINCE RUPERT	VANCOUVER	VICTORIA	TOTALS
					$000			
ACTIVITY								
Resource availability	$127	$138	$1,079	$165	$222	$116	$1,830	$3,677
Direct fire fighting	2,295	28,328	7,544	4,986	2,087	4,235	8,815	58,290
Emergency equipment	–	20	265	4	2	5	8,495	8,791
Fire detection flying	61	225	510	624	92	113	1	1,626
Air tanker flying	1	–	7	4	274	202	11,384	11,872
Fire support flying	1,189	18,554	9,865	8,140	3,650	5,034	4,090	50,522
Direct fire recoveries	(4)	–	(2)	(46)	–	–	19,094	19,042
TOTALS	**$3,669**	**$47,265**	**$19,268**	**$13,877**	**$6,327**	**$9,705**	**$53,709**	**$153,820**

Table E: Fire Suppression Preparedness Expenditures in 1998/99, by Activity, by Office or Forest Region

OFFICE OR REGION	CARIBOO	KAMLOOPS	SOUTHEAST	PRINCE GEORGE	NORTHWEST	COASTAL	VICTORIA	TOTALS
	$000							
ACTIVITY								
Activity management	$3,248	$4,793	$3,737	$4,251	$3,217	$4,057	$20,631	$43,924
Recoveries	(16)	(2)	(21)	(6)	– –	(24)	(3,618)	(3,687)
TOTALS	**$3,232**	**$4,791**	**$3,706**	**$4,245**	**$3,217**	**$4,033**	**$17,013**	**$40,237**

Table F: Forest Stand Management Fund Expenditures in 1998/99, by Category of Expenditure

	TOTAL
	$000
CATEGORY	
Professional services	$314
Other	64
TOTAL	**$378**

Table G: Small Business Forest Enterprise Program (SBFEP) Expenditures in 1998/99, by Activity, by Office or Forest Region

OFFICE OR REGION	CARIBOO	KAMLOOPS	NELSON	PRINCE GEORGE	PRINCE RUPERT	VANCOUVER	VICTORIA	TOTALS
	$000							
ACTIVITY								
Administration and transfer	–	–	–	–	–	$37	$107,046	$107,083
Harvesting - sales	$1,657	$6,333	$3,090	$4,920	$4,201	6,245	73	26,519
Harvesting - roads	3,927	7,498	5,137	6,915	13,291	10,823	–	47,591
Silviculture	3,402	3,935	3,470	6,942	2,948	4,250	6,518	31,465
Protection	–	15	32	366	36	42	–	491
Less Transfer to General Account	–	–	–	–	–	–	(71,057)	(71,057)
TOTALS	**$8,986**	**$17,781**	**$11,729**	**$19,143**	**$20,476**	**$23,397**	**$42,580**	**$142,092**

Table H: South Moresby Implementation Expenditures in 1998/99, by Category of Expenditure, by Office or Forest Region

OFFICE OR REGION	CARIBOO	KAMLOOPS	NELSON	PRINCE GEORGE	PRINCE RUPERT	VANCOUVER	VICTORIA	TOTALS
	$000							
Salaries and benefits	–	–	–	–	–	$72	–	$72
Professional services	–	–	–	–	–	1,356	–	1,356
Other	–	–	–	–	–	35		35
TOTALS	**–**	**–**	**–**	**–**	**–**	**$1,463**	**–**	**$1,463**

Appendices

Appendix 1: The Ministry

Structure

The Ministry of Forests, which is also known as the Forest Service, is structured to:

- effectively manage the resources,
- decentralize decision-making to ensure efficient and highly responsive service to ministry clients,
- emphasize integrated resource management and forest product development and marketing,
- establish clear line-staff relationships,
- make sure that managers are accountable, and
- achieve excellence through a commitment to employees.

Organization and Functions

The ministry is organized into three divisions and one group, which are made up of 19 branches, six forest regions, and 40 districts.

Policy and Economics Group

This group provides a consistent framework for provincial forest policy. It is responsible for negotiating agreements with forest companies. Those agreements are required to implement government land-use decisions, and to develop long-term strategies for the forest sector. The group also has specific responsibility for trade policy and legislation. There are two branches:

Economics and Trade Branch is responsible for developing policies that help foster the growth and improve the economic health of B.C.'s forest resources and forest industry. The branch prepares economic analyses of forest resource matters and coordinates provincial policies on forest-related environment and trade issues. The branch also manages incoming and outgoing international missions, communications and forest-related trade matters.

Corporate Policy and Planning Branch is responsible for the Ministry of Forests' policy and consultation processes in response to current and emerging issues. The branch:

- manages the ministry's legislation program,
- coordinates selected strategic forest initiatives,
- manages the ministry's corporate-level forest-sector policy initiatives,
- designs the ministry's business and strategic planning processes, and,
- coordinates ministry contributions to interministry policy, planning, and intergovernmental initiatives.

Operations Division

This division is the operational arm of the Forest Service. It implements the policies and programs developed by the branches. The only division with direct regional and district responsibilities, Operations Division includes the six regional offices, 40 district offices, and six branches, as follows:

Protection Branch ensures stewardship of the forest resources by maintaining the ministry's fire fighting resources in a state of readiness. The Protection Program focuses on the prevention and suppression of wildfires — including protecting forest and range resources and other natural resource values, lives and property. The program is divided into two major activities: direct fire fighting and fire preparedness. Program performance measures

include controlling 90 per cent of all wildfires at less than four hectares, keeping the area burned by wildfire to less than 150,000 hectares in any five-year period (i.e., 30,000 hectares annually), and keeping timber volume lost to wildfires at less than 7 million cubic metres annually.

The mandate of *Compliance and Enforcement Branch* is to promote compliance, by both industry and the Forest Service, with forest and range legislation and to help the government effectively enforce that legislation. There are five important components to this mandate:

- enhancing the enforceability of the legislative framework,
- ensuring credible enforcement,
- providing expert, operationally focused advice to regional and district staff on managing forest resources within a legislative framework,
- providing expert advice and support for administrative reviews and appeals, and
- providing training to statutory decision-makers and field staff.

Business Improvement Branch is responsible for the ministry-wide design and delivery of effective business and management processes that provide support to the regions and districts. The branch provides advice, training and support on implementing and maintaining continuous improvement principles in business, management and leadership practices.

Resource Tenures and Engineering Branch supports the ministry's harvesting program throughout the province by providing administrative and operational services for major tenures, the Woodlot Licence Program, the Small Business Forest Enterprise Program, forest engineering, legal access and land acquisition and disposal, and land information management. The branch also provides professional expertise and leadership to develop and maintain provincial legislation, policies and procedures for these program areas. The branch provides day-to-day operational support, advice and information to the Minister of Forests, the ministry executive, regions and districts, and the public.

Nursery and Seed Operations Branch produces high-quality seedlings for planting for reforestation activities delivered by the Ministry of Forests, including those funded by the ministry, Forest Renewal BC, and the Small Business Forest Enterprise Program. The branch manages seedling production at the ministry's three nurseries, as well as transportation and cold storage of all ministry-funded seedlings. It also administers seedling contracts with private nurseries to fulfill government reforestation responsibilities.

Aboriginal Affairs Branch promotes the Ministry of Forests' interests in treaty negotiations, reconciling ministry priorities with provincial legal obligations and policy commitments to First Nations. The branch also provides information and training to other branches, regions and districts on court decisions such as *Delgamuukw*. The branch plans, coordinates and implements programs to increase First Nations participation in the forest sector, and it provides leadership and advice in:

- developing balanced policy on First Nations issues,
- developing programs that provide economic opportunities for First Nations in the forest sector, and

- information management and resource analysis to support Interim Measures Agreements and treaty processes.

Forestry Division

The Forestry Division provides policy framework, technical standards, tools, procedures and support for field staff. This includes sustainable management of British Columbia's forest, range and outdoor recreation resources. The assistant deputy minister, who is also the province's chief forester, determines the allowable annual cuts (AACs) for timber supply areas and tree farm licences. Branches are as follows:

Forest Practices Branch develops and maintains a vision of sustainable forest management for British Columbia's timber, range and recreation resources, in support of the chief forester's legislated mandate. The branch is responsible for preparing, updating, assessing and refining all aspects of provincial forest planning, practices, policy and standards, within the context of the ministry's mandate. The branch also proposes legislation, policies and procedures to help meet the ministry's goals and objectives, and it provides expert advice and technical support to a broad array of clients, particularly operations field staff in the regions and districts. In addition, the branch serves as the ministry's liaison with the Forest Practices Board.

Timber Supply Branch supports the chief forester's AAC determination by producing timely, reliable and informative timber supply analyses that reflect current integrated resource management. This includes developing policy, methods and models for timber supply analysis. The branch also provides, through the AAC decision-support team, information, policy and advice for the AAC determination process to the chief forester, and to Forest Service district and the regions.

Tree Improvement Branch coordinates all ministry tree improvement functions and ensures their integration with the activities of the British Columbia Tree Improvement Council. The branch develops and supports information systems on seedlot registration and seedling requests. In addition, it provides extension services to private seed collectors, nurseries and Christmas tree growers on seedling quality, operational trials, and nursery pest management. All seed used for Crown land reforestation must be stored at the ministry's Tree Seed Centre; the centre extracts seed from cones, and registers, tests, stores and withdraws for use all seeds used for Crown land reforestation. The branch's goal is to enhance short- and long-term timber supply by increasing production of genetically improved and/or insect- and disease-resistant seed and seedlings. The branch also coordinates ministry tree improvement liaison with Forest Renewal BC and supports the chief forester in developing appropriate policy and forest practices for the use and distribution of genetic material.

Resources Inventory Branch is responsible for the Vegetation Resources Inventory, a geo-referenced repository of current forest resources data. It provides support for complex, integrated, resource-management decisions. The branch also provides training, planning and application development to meet client needs.

The Research Program is a partnership of Research Branch and regional scientists. The program responds to client needs for timely scientific advice, problem solving and research to improve the ministry's ability to maintain and enhance forest productivity, meet economic and social sustainability goals, and achieve forest stewardship goals, including implementation of the Forest Practices Code. To address high-priority issues related to forest practices and ecosystem management, ministry scientists conduct multi-disciplinary research in cooperation with a variety of forest science groups. They also maintain an extensive national and international network of contacts for exchanging information.

Forestry Division Services Branch provides a range of business and management support services to Forestry Division and the ministry. Responsibilities include planning, training coordination, and desktop systems support. Secondary clients are outside agencies, such as Forest Renewal BC, industry and other groups.

Revenue and Corporate Services Division

Revenue and Corporate Services develops and monitors the policy framework relating to revenue, expenditure and human resources management, including employment equity, facilities, information systems, and freedom of information. The division delivers administrative services and performs the annual internal audit. The assistant deputy minister is also the ministry's executive financial officer. Branches are as follows:

Financial Management Branch provides:

- policy direction and standards for financial, contract and asset management,
- financial-management training and advice,
- corporate management services,
- appropriate accountability, through audits, and
- appropriate financial-management information for decision-making.

Revenue Branch is responsible for:

- determining Ministry revenue in a systematic and equitable manner,
- identifying and claiming revenue completely, accurately and promptly,
- recording revenue promptly and accurately,
- collecting revenue accounts-receivable vigorously, and
- treating licensees fairly and equitably.

Human Resources Branch provides professional human-resource management services to all of the ministry's branches, groups, regions and districts. As well, the branch offers leadership, advice and guidance on recruitment, workforce adjustment and attrition, training and development, classification and compensation, labour relations, occupational health and safety, and employment equity.

Audit Services Branch reviews systems, controls and processes within the ministry. It has no clients or functions outside of the ministry.

Information Management Group manages and supports corporate information management and information technology services plans. It also evaluates and

implements new technologies and supports applications, including development and maintenance, and training services. The group is responsible for planning, data administration, policy, audit, freedom of information, forms, records and manual publication services. In addition, the group provides voice, data and radio communications infrastructure for the ministry.

Communications

Communications Branch sets communications policy and governance for the Ministry of Forests and delivers a full range of communications services, planning, strategy and counsel to the minister, deputy minister, executive, branches, regions and districts. The branch also provides information about the ministry and its activities to the public, news media, educational institutions and organizations, government agencies, staff, and stakeholder groups (e.g., industry, forest workers, communities, environmental organizations, and First Nations). The branch reports directly to the deputy minister.

Regional Offices

The Forest Service's six regional offices, each under the direction of a regional manager, are the general administrative centres for the forest region and the districts within them. With input from the districts, regional managers and their staff develop priorities, programs and procedures for the region, based on broad provincial policies. They supply professional and technical expertise to help the districts implement programs and deliver goods and services to the public. Regional offices have an important role in quality assurance, and they relay feedback from the districts to the appropriate headquarters branches.

District Offices

District offices put ministry policies into practice by carrying out regional priorities. They also ensure compliance with legislative requirements, such as the Forest Practices Code, for which the district manager is a key statutory decision-maker.

Authority

Legislative Authority

The mandate of the Forest Service, as stated in section 4 of the *Ministry of Forests Act*, is to:

(a) encourage maximum productivity of the forest and range resources in the Province,

(b) manage, protect and conserve the forest and range resources of the Crown, having regard to the immediate and long-term economic and social benefits they may confer on the Province,

(c) plan the use of the forest and range resources of the Crown, so that the production of timber and forage, the grazing of livestock, and the realization of fisheries, wildlife, the harvesting of timber, water, outdoor recreation and other natural resource values are coordinated and integrated, in consultation and cooperation with other ministries and agencies of the Crown and with the private sector,

(d) encourage a vigorous, efficient and world-competitive timber processing industry in the Province, and

(e) assert the financial interests of the Crown in its forest and range

resources in a systematic and equitable manner.

In addition, the Forest Service is required under the preamble to the *Forest Practices Code of British Columbia Act*, which was amended in July 1997, to manage the forest and range resource to ensure sustainable use. That includes:

(a) managing forests to meet present needs without compromising the needs of future generations,

(b) providing stewardship of forests based on an ethic of respect for the land,

(c) balancing economic, productive, spiritual, ecological and recreational values of forests to meet the economic, social and cultural needs of peoples and communities, including First Nations,

(d) conserving biological diversity, soil, water, fish, wildlife, scenic diversity and other forest resources, and

(e) restoring damaged ecologies.

The main responsibilities and authorities of the Forest Service are defined in the following provincial legislation:

- *Ministry of Forests Act*, Revised Statutes of B.C. (RSBC) 1996, Chapter 300,
- *Forest Act*, RSBC 1996, Chapter 157,
- *Forest Practices Code of British Columbia Act*, RSBC 1996, Chapter 159, and
- *Range Act*, RSBC 1996, Chapter 296.

In addition, the following legislation is under the responsibility of the Minister of Forests, but is not directly administered by the Forest Service:

- *Forest Renewal Act*, RSBC 1996, Chapter 160,
- *Forest Land Reserve Act*, RSBC 1996, Chapter 158, and
- *Foresters Act*, RSBC 1996, Chapter 162.

The Forest Service also has administrative responsibilities under the:

- *Forest Stand Management Fund Act*, RSBC 1996, Chapter 161.

Meeting the Mandate

To meet its mandate, the Forest Service:

- provides mandatory provincial and regional requirements through legislation for forest practices,
- provides site-specific guidance on the requirements of the Forest Practices Code, and places those requirements in forest plans, prescriptions and contracts,
- monitors and enforces the requirements of the Forest Practices Code,
- works in partnership with other agencies to renew and revitalize the province's forests, forest workforce and forest-dependent communities,
- grows healthy, productive forests to meet the province's social and economic needs,
- manages and protects Crown forest lands to ensure sustainable development of:
  - timber for the forest industry,
  - forage for the livestock industry, and
  - protection of non-timber values,

- provides forest recreation and manages wilderness values in provincial forests,
- collects resource revenues from the Crown's forest and range resources through stumpage, royalties, rents and fees,
- encourages value-added manufacturing,
- requires reforestation of Crown forest lands,
- conducts research in forest renewal, forest productivity and decision aids, and integrated resource management,
- protects the province's forest and range resources from damage by fire, forest insects and diseases,
- consults with First Nations to ensure that aboriginal rights are not infringed by forest management activities,
- works with First Nations and industry to increase the involvement of aboriginal peoples in the forest sector,
- informs various audiences about the Forest Service's mandates, goals and organization, and
- ensures the best balance of all resource values through integrated resource management.

Integrated resource management is a process that:

- identifies and considers all resource values,
- assigns resource use and management emphasis based on an evaluation of land and resource management options developed from biophysical, social and economic factors,
- is guided by the principles of sustainable use and resource stewardship,
- produces a picture of resource uses and priorities for large areas, and
- selects the best uses for the present, and schedules resource-use changes over time.

To achieve integrated resource management, the Forest Service:

- fairly and equitably considers social, economic and environmental factors,
- ensures consistency in resource management between government agencies by working cooperatively to deliver integrated resource management programs, and
- works closely with the public to define land- and resource-use priorities.

Guiding Principles

As stewards of the province's forest and range resources, the Forest Service follows these principles:

- We earn and maintain public trust and confidence through sound program and fiscal management.
- We strive for the wise, balanced use and protection of all forest resources.
- Our employees are our most important asset.
- Employees are:
  - trusted and respected,
  - empowered and supported,
  - recognized and consulted, and
  - trained and developed.
- Our actions and decisions contribute to an equitable, safe, healthy and satisfying work environment.
- We work together as a team within and between our functional and geographical boundaries while respecting each other's roles.
- We encourage initiative, take risks, learn from our mistakes, and build

on our successes.

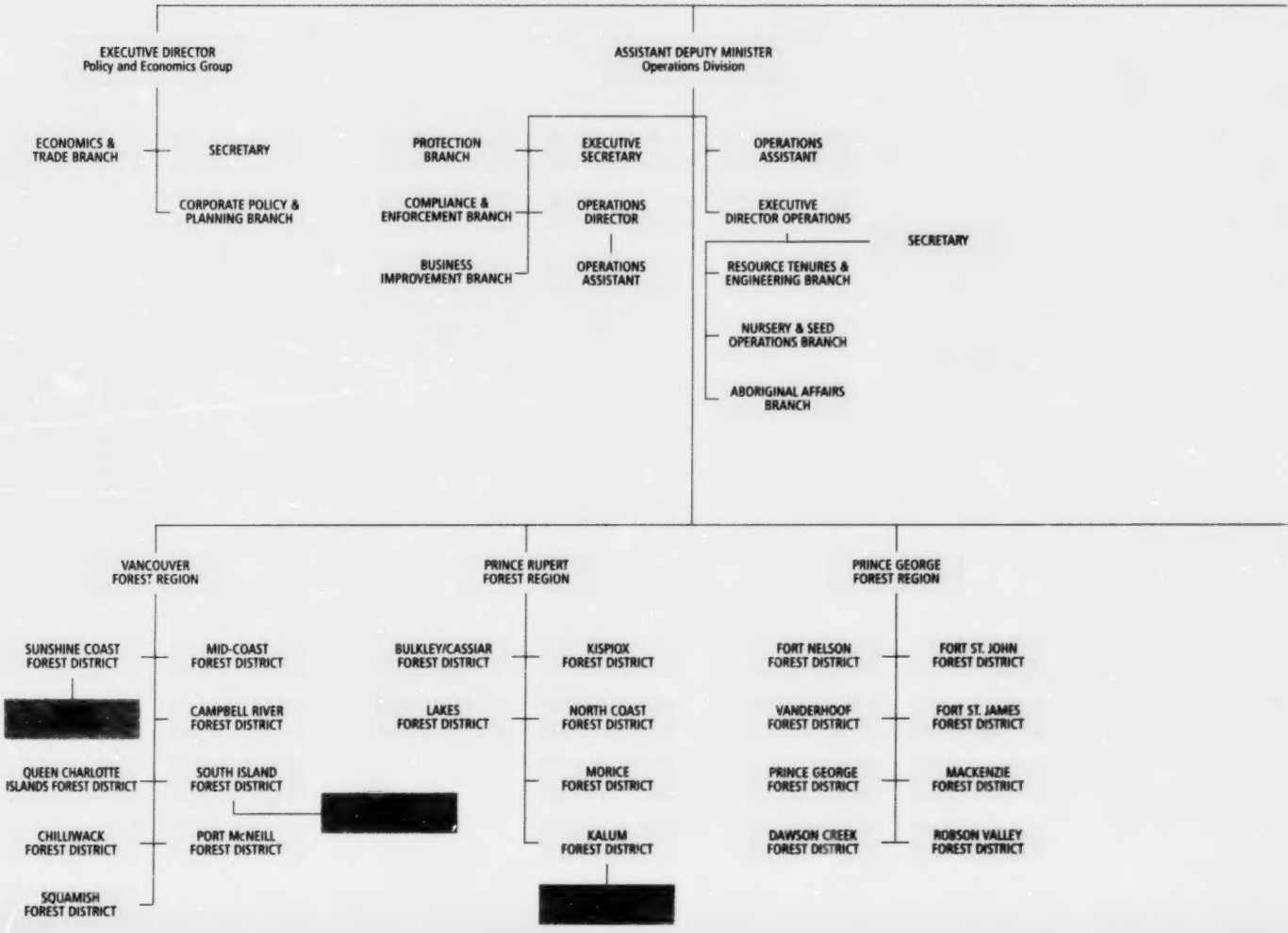
- We communicate in an appropriate, open, honest and timely manner.
- Our actions match our words; we accept personal accountability for demonstrating integrity.
- We are open and responsive to changing values and concerns.
- We consult with and inform clients.
- We provide high-quality service.

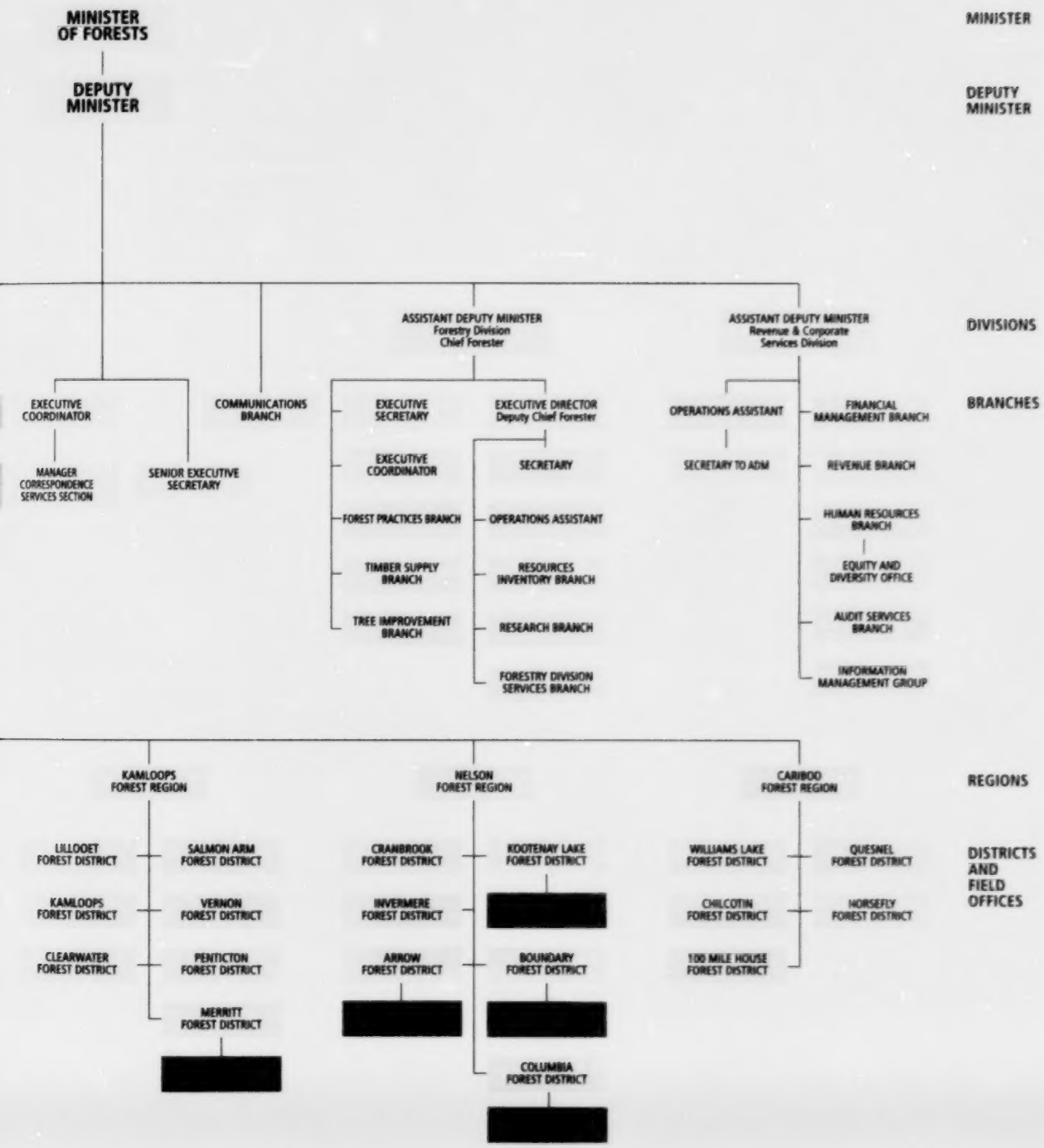
Reports

The *Ministry of Forests Act* requires the Forest Service to prepare:

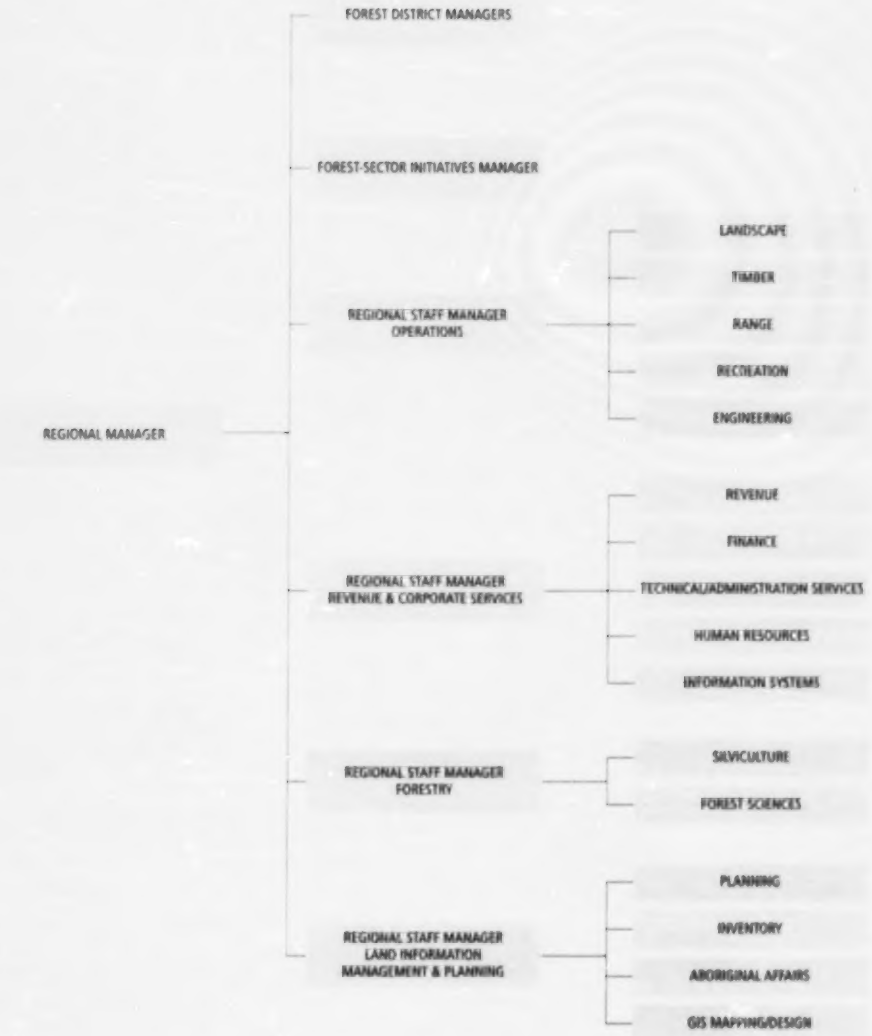
- a periodic resource analysis describing the conditions, management and future uses of the forest and range resources, to enable informed setting of overall priorities and long-term objectives,
- a five-year program, updated annually, that sets the schedules, methods and priorities for forest and range resource management and improvements, and
- an annual report that reviews the use and management of resources, the effects of the ministry's programs, and the ministry's performance with respect to the five-year program.

Ministry Organization by Reporting Function

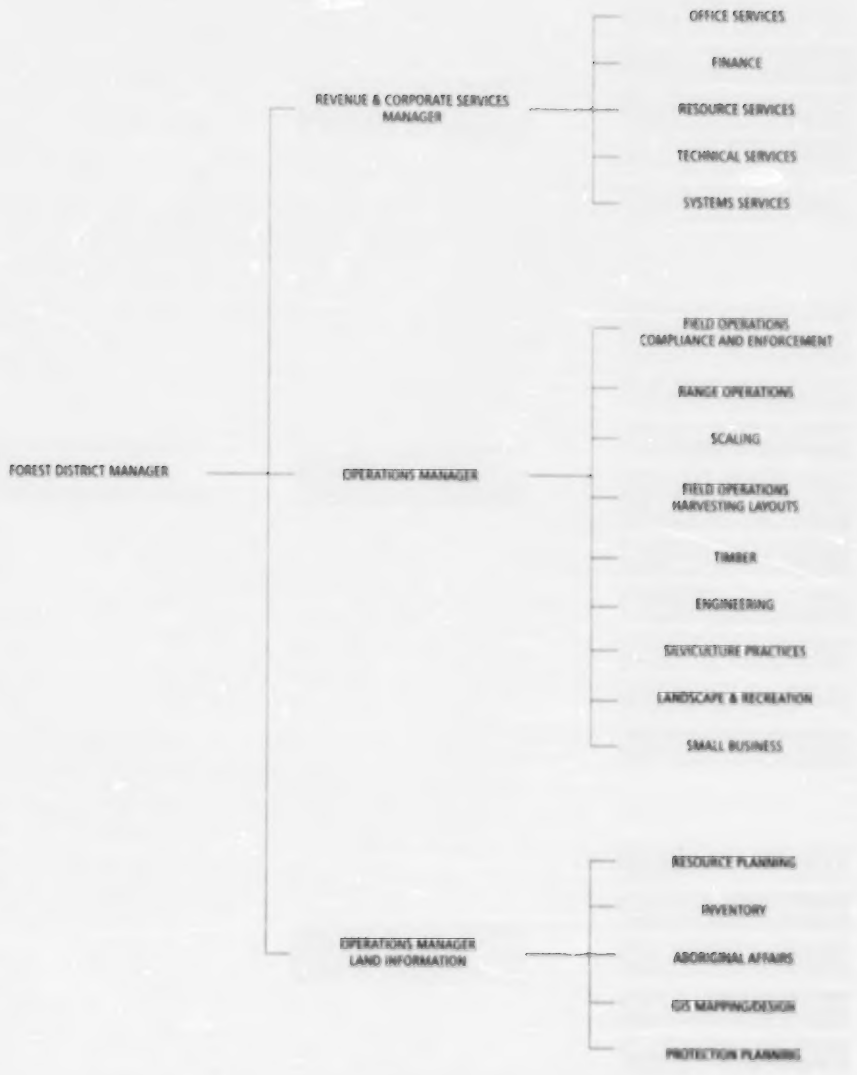



MINISTER OF FORESTS
DEPUTY MINISTER
MINISTER
DEPUTY MINISTER
DIVISIONS
BRANCHES
REGIONS
DISTRICTS AND FIELD OFFICES
EXECUTIVE COORDINATOR
MANAGER CORRESPONDENCE SERVICES SECTION
SENIOR EXECUTIVE SECRETARY
COMMUNICATIONS BRANCH
ASSISTANT DEPUTY MINISTER Forestry Division Chief Forester
EXECUTIVE SECRETARY
EXECUTIVE COORDINATOR
FOREST PRACTICES BRANCH
TIMBER SUPPLY BRANCH
TREE IMPROVEMENT BRANCH
EXECUTIVE DIRECTOR Deputy Chief Forester
SECRETARY
OPERATIONS ASSISTANT
RESOURCES INVENTORY BRANCH
RESEARCH BRANCH
FORESTRY DIVISION SERVICES BRANCH
ASSISTANT DEPUTY MINISTER Revenue & Corporate Services Division
OPERATIONS ASSISTANT
SECRETARY TO ADM
FINANCIAL MANAGEMENT BRANCH
REVENUE BRANCH
HUMAN RESOURCES BRANCH
EQUITY AND DIVERSITY OFFICE
AUDIT SERVICES BRANCH
INFORMATION MANAGEMENT GROUP
KAMLOOPS FOREST REGION
LILLOOET FOREST DISTRICT
KAMLOOPS FOREST DISTRICT
CLEARWATER FOREST DISTRICT
SALMON ARM FOREST DISTRICT
VERNON FOREST DISTRICT
PENTICTON FOREST DISTRICT
MERRITT FOREST DISTRICT
[redacted]
NELSON FOREST REGION
CRANBROOK FOREST DISTRICT
INVERMERE FOREST DISTRICT
ARROW FOREST DISTRICT
[redacted]
KOOTENAY LAKE FOREST DISTRICT
[redacted]
BOUNDARY FOREST DISTRICT
[redacted]
COLUMBIA FOREST DISTRICT
[redacted]
CARIBOO FOREST REGION
WILLIAMS LAKE FOREST DISTRICT
CHILCOTIN FOREST DISTRICT
100 MILE HOUSE FOREST DISTRICT
QUESNEL FOREST DISTRICT
HORSEFLY FOREST DISTRICT

Regions Organization Model



Districts Organization Model



Appendix 2: Special Accounts – Statutory

Statutory authorities are in place for several Special Accounts in which the Ministry of Forests has significant involvement, through funding and/or providing services, personnel or materials.

Forest Stand Management Fund

This account was originally established as a fund by the *Forest Stand Management Fund Act*, 1986, and was changed to a Special Account under the *Special Accounts Appropriation and Control Act*. Revenue is provided by contributions from municipalities, the forest industry, forest-sector unions, and others.

Expenditures provide for enhanced management of British Columbia's forest and range lands, and for related projects. No financing transactions are provided for under this account, and no reports are included.

Small Business Forest Enterprise Program (SBFEP)

This account was established in 1988 to identify all revenues incidental to the operation of the SBFEP and to provide an ongoing source of funds to defray the costs of the program.

Revenue is derived from upset and bonus stumpage, annual rents, trespass charges, scaling and registration fees, and sales of logs. Revenue in excess of current expenditures and future basic silviculture requirements is returned to the province's general revenue fund. In 1998/99, $61.2 million was returned. This is a substantial decrease from the previous years, and reflects the challenges faced by the forest sector as the price of lumber in the U.S. market and Asian demand remain weak. Expenditures are made for administration, logging road and bridge construction and maintenance, the costs of selling timber and logs, and basic silviculture to restock logged lands.

Qualified individuals and firms register in this program to purchase Crown timber from the province. Market loggers make up the majority of registrants.

The main objectives of the SBFEP are to:

- provide opportunities for existing and new businesses in the forest industry,
- promote diversification and jobs,
- support competition and profit, and
- encourage sound, integrated forest management throughout the province.

The SBFEP also provides opportunities for a considerable number of private-sector contractors to construct roads, reforest land, measure and protect the timber resource, and assist in planning forest management activities.

Accomplishments under the program during 1998/99 are reported in the "Operational Results" section of this ministry annual report.

South Moresby Implementation

The British Columbia and Canadian governments agreed in 1988 to create the Gwaii Haanas/South Moresby National Park Reserve in the Queen Charlotte Islands (Haida Gwaii). The South Moresby Forest Replacement Account was created to help offset the reduction in timber supply and the associated loss of

forestry jobs that resulted from the creation of the park reserve. To establish the fund, the governments each contributed $12 million. The interest-bearing account is jointly administered by a management committee made up of representatives of both governments. Queen Charlotte Forest District staff administers activities. Forest Services Division Branch provides additional support.

The term of the South Moresby Forest Replacement Account, which was to end on March 31, 2000, has been extended to 2007.

Categories of projects funded by the account include Operational Forestry Enhancement, Research and Demonstration, Inventory, Community Involvement in Strategic Land-Use Planning, and Communications.

The *South Moresby Forest Replacement Account Annual Report 1998/99* provides detailed information about activities and accomplishments. Copies are available from the Queen Charlotte Islands Forest District office at (250) 559-6200.

Forest Renewal BC

Forest Renewal BC, a provincial Crown corporation, is an investment agency with the mandate to plan and implement a program of investments to renew the forest economy of British Columbia. It does this by enhancing the forests' environment and productive capacity, creating jobs, providing training for forest workers, and strengthening local communities that depend on the forest industry. Forest Renewal BC promotes regional equity and participation, wide representation for stakeholder groups, and sensitivity to the needs of the environment.

Forest Renewal BC continued its organizational transition in 1998/99 to a smaller, more focused investment agency. In response, the Ministry of Forests (in cooperation with the Ministry of Environment, Lands and Parks) undertook resource management planning to identify forest resource management needs and priorities across the provincial land base. The goal was to link resource management objectives with Forest Renewal BC's investment decision-making and project selection.

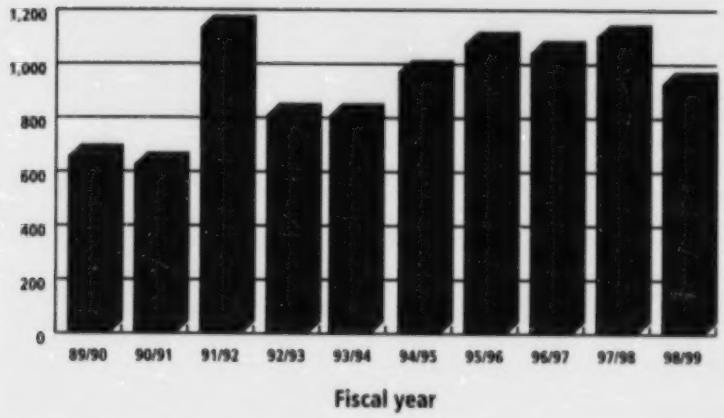
1998/99 Accomplishments

Under a services agreement with Forest Renewal BC, the Ministry of Forests was reimbursed for its costs associated with the stewardship and statutory functions associated with Forest Renewal BC projects under the Land-Based Programs and Innovative Forest Practices Agreements (IFPAs) and Enhanced Forest Management Pilot Projects (EFMPPs).

The corporation's activities are reported in detail in the *Forest Renewal BC 1998/99 Business Plan* and the *Forest Renewal BC 1998/99 Annual Report*. For more information, refer to www.forestrenewal.bc.ca

Appendix 3: Silviculture Graphs

Note: Ministry annual reporting is based on data in ministry information systems. Where data entry is incomplete or delayed, numbers reported may underestimate actual accomplishments. Numbers reported by the Ministry of Forests may also differ from numbers reported by different methods or agencies.

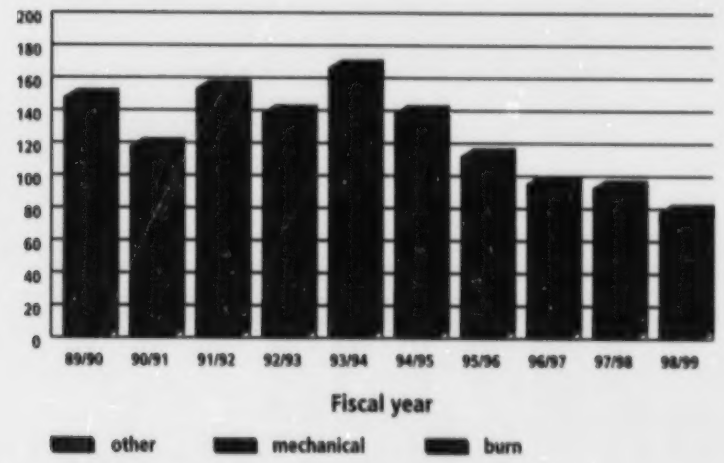


Graph 1

Silviculture Surveys on Crown Land
Summary of accomplishments

Hectares (thousands)

Ten-year analysis: Silviculture surveys on Crown land have increased substantially in the last 10 years to meet the increasing need for planning and monitoring of silviculture activities.



Graph 2

Site Preparation on Crown Land
Summary of accomplishments

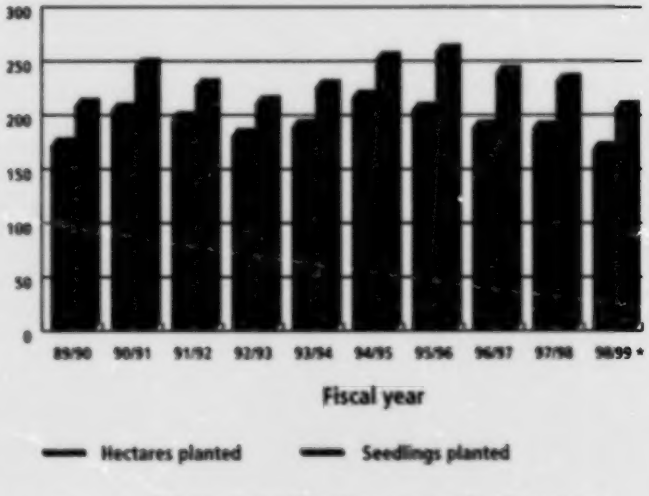
Hectares (thousands)

Ten-year analysis: The use of prescribed fire for site preparation has decreased over the last decade. Since 1991/92, mechanical site preparation has been used for more than half of the total site preparation done each year, with fire used for less than one-third.

Graph 3

Planting on Crown Land
Summary of accomplishments

Hectares (thousands) and Seedlings (thousands)



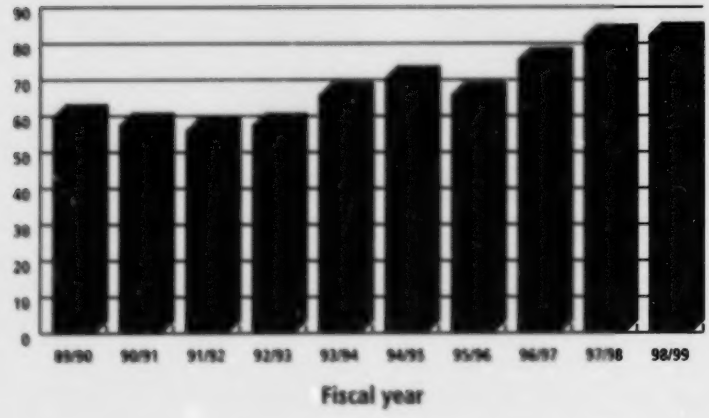
Ten-year analysis: Crown land planted peaked in 1994/95, at 216,000 hectares. As the backlog of not satisfactorily restocked (NSR) land is regenerated, the amount of planting is expected to gradually decline, levelling off over the next decade.

*In 1998/99, just less than 30 per cent of seedlings planted were from Select sources, with an average expectation of 6 per cent greater growth.

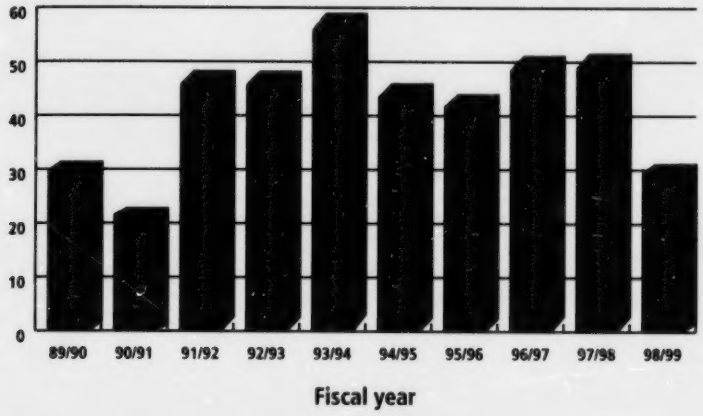
Graph 4

Brushing on Crown Land
Summary of accomplishments

Hectares (thousands)



Ten-year analysis: Brushing levels have been maintained at steady levels because of the need to establish free-growing forests.



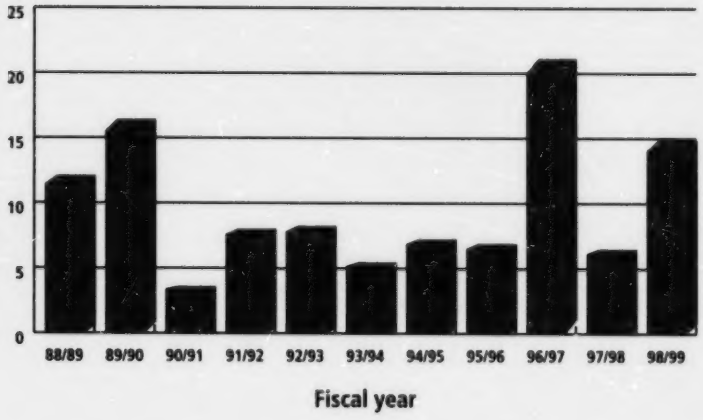
Graph 5

Juvenile Spacing on Crown Land

Summary of accomplishments

Hectares (thousands)

Ten-year analysis: Spacing of young coniferous stands increased significantly through FRDA II (1991-1995), the Provincial Incremental Program, and initially through funding provided by Forest Renewal BC. Funding reductions in 1998/99 reduced the size of the spacing program.



Graph 6

Fertilization on Crown Land

Summary of accomplishments

Hectares (thousands)

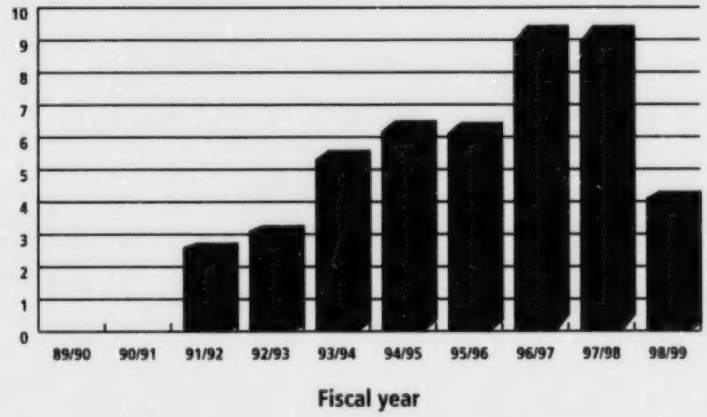
Ten-year analysis: Fertilization has generally decreased since 1989/90. The need for fertilization depends on specific forest-site conditions. It varies each year.

Graph 7

Pruning on Crown Land

Summary of accomplishments

Hectares (thousands)



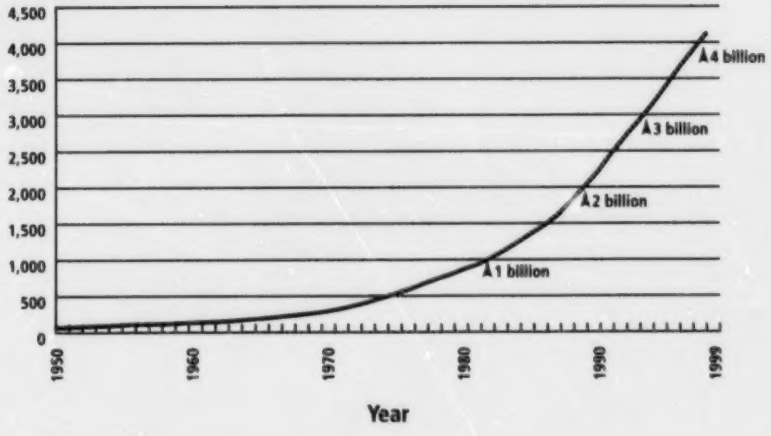
Ten-year analysis: Pruning treatments to enhance the value of wood for future harvesting have increased substantially from 1991/92 through to 1997/98. Funding reductions in 1998/99 reduced the size of the pruning program.

Graph 8

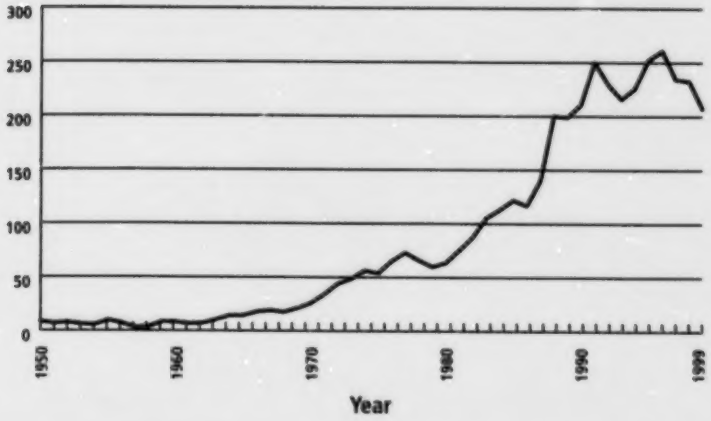
Cumulative Total of Seedlings Planted in British Columbia

Summary of accomplishments

Seedlings (millions)



The three-billionth seedling was planted in 1993. The four-billionth seedling was planted in 1997.



Seedlings planted yearly reached an all-time high in 1995, at 260 million. Planting will continue to decline as the backlog of not satisfactorily restocked (NSR) land is regenerated.

Graph 9

Number of Seedlings Planted Each Year in British Columbia

Summary of accomplishments

Seedlings (millions)

Ministry of Forests
1998/99 Annual Report

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Note:

Ministry annual reporting is based on data in ministry information systems. Where data entry is incomplete or delayed, numbers reported may underestimate actual accomplishments. Numbers reported by the Ministry of Forests may also differ from numbers reported by different methods or other agencies.

Table C-1: Volume and Average Stumpage Prices[1] in 1998/99, by Forest Region

	All Species	
	Volume	Price
	000m3	$/m3
Region		
Cariboo	7,140	$17.44
Kamloops	7,071	17.05
Nelson	4,561	7.62
Prince George	13,690	25.20
Prince Rupert	5,816	16.93
Vancouver	10,261	19.86
COAST TOTAL[2]	**10,602**	**19.28**
INTERIOR TOTAL	**38,937**	**19.05**
PROVINCE TOTAL	**48,539**	**$19.10**

[1] Based on stumpage billings from Crown land, excluding the Small Business Forest Enterprise Program, timber licences, waste, special forest products, and firmwood rejects.

[2] Coast includes the Vancouver Forest Region plus the North Coast Forest District of the Prince Rupert Forest Region. The rest of the province is Interior.

Figures may not add due to rounding.

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Table C-2: Volume of All Products Billed[1] in 1998/99, by Land Status, by Forest Region

Region	Cariboo	Kamloops	Nelson	Prince George	Prince Rupert	Vancouver	Coast[2]	Interior	Totals
	000m3								
Land status									
Crown land									
Forest licence	6,221	5,456	2,970	10,947	4,648	4,431	4,747	29,926	34,673
Tree farm licence (TFL)[3]	610	922	903	1,136	792	6,064	6,064	4,364	10,428
Timber licence within a TFL	–	–	28	–	*	1,258	1,258	28	1,286
Timber licence outside of a TFL	–	42	50	–	6	693	699	91	790
Woodlot licence	233	116	120	236	128	42	42	833	875
Other[4]	174	647	658	1,603	345	134	164	3,396	3,560
SUB-TOTALS	**7,238**	**7,182**	**4,729**	**13,921**	**5,920**	**12,621**	**12,974**	**38,638**	**51,612**

SBFEP[5] Section 20	556	660	465	1,334	1,028	787	833	3,997	4,830
SBFEP Section 21	193	293	128	474	308	355	359	1,393	1,751
SBFEP Other	85	373	87	294	244	70	70	1,083	1,153
Sub-totals	834	1,326	679	2,102	1,581	1,212	1,262	6,473	7,735
TOTAL CROWN LAND	8,072	8,508	5,408	16,023	7,501	13,833	14,236	45,111	59,347
Private land									
Within a TFL	–	–	3	–	–	800	800	3	803
Outside of a TFL	160	338	618	1,059	130	5,126	5,140	2,291	7,431
TOTAL PRIVATE LAND	160	338	621	1,059	130	5,926	5,940	2,294	8,234
Federal land and First Nations reserves	5	6	–	1	*	17	17	12	29
Totals	8,237	8,852	6,030	17,083	7,632	19,776	20,192	47,418	67,610

[1] Volumes include waste and firmwood rejects. Waste billings were not included prior to 1996/97, and in 1998/99 they accounted for 923,000 cubic metres.

[2] Coast includes the Vancouver Forest Region plus the North Coast Forest District of the Prince Rupert Forest Region. The rest of the province is Interior.

[3] Includes Schedule B lands only.

[4] Includes licences to cut, non-SBFEP timber sale licences, rights-of-way, beachcomb and miscellaneous.

[5] Small Business Forest Enterprise Program.

* Indicates volume of less than 500 cubic metres.

Figures may not add due to rounding.

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Table C-3: Volume of All Products Billed[1] in 1998/99, by Forest Region, by Species

Region	Cariboo	Kamloops	Nelson	Prince George	Prince Rupert	Vancouver	Coast[2]	Interior	Totals
	000m³								
Species									
Balsam	274	936	506	1,897	2,104	2,148	2,203	5,661	7,865
Cedar	97	521	579	97	232	4,495	4,638	1,383	6,021
Cypress	–	–	–	–	21	747	767	1	768
Deciduous	160	65	12	1,947	39	317	319	2,222	2,541
Douglas-fir	799	1,762	1,120	385	1	5,250	5,250	4,067	9,317
Hemlock	81	366	459	151	1,670	5,884	6,007	2,604	8,611
Larch	*	104	517	2	–	–	–	623	623
Pine, lodgepole	5,343	3,051	1,675	6,115	2,231	37	37	18,415	18,452
Pine, white	*	60	73	*	*	31	31	134	165
Pine, whitebark	*	*	3	–	–	–	–	4	4
Pine, yellow	*	25	17	–	–	*	*	42	42
Spruce	1,368	1,872	943	6,221	1,205	333	394	11,548	11,942
Yew	–	–	–	–	–	*	*	–	*
Reject	89	51	57	90	31	17	17	318	335
Waste	24	38	67	177	98	519	529	394	923
TOTALS	8,237	8,852	6,030	17,083	7,632	19,776	20,192	47,418	67,610

[1] Includes all harvesting on Crown, private and federal lands, and on First Nations reserves.

[2] Coast includes the Vancouver Forest Region plus the North Coast Forest District of the Prince Rupert Forest Region. The rest of the province is Interior.

* Indicates volume of less than 1,000 cubic metres.

Figures may not add due to rounding.

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Table C-4: Area Harvested[1] in 1998/99, by Silvicultural System, by Forest Region

		Crown Land				Private Land			
		TFL[2]	TSA[3]	Other[4]	Sub-totals	TFL[1]	Other[5]	Sub-totals	Totals
		hectares							
REGION	**SILVICULTURAL SYSTEM[6]**								
Cariboo	Clearcut	1,967	29,837	37	31,841	–	50	50	31,891
	Clearcut with reserves	112	970	29	1,111	–	–	–	1,111
	Patch cut	–	–	–	–	–	–	–	–
	Intermediate cut	–	–	1	1	–	–	–	1
	Seed tree	–	16	22	38	–	–	–	38
	Selection	–	2,846	133	2,979	–	–	–	2,979
	Shelterwood	–	291	3	294	–	–	–	294
SUB-TOTALS		**2,079**	**33,960**	**225**	**36,264**	**–**	**50**	**50**	**36,314**
Kamloops	Clearcut	2,178	18,186	333	20,697	–	84	84	20,781
	Clearcut with reserves	–	663	–	663	–	–	–	663
	Patch cut	–	91	22	113	–	–	–	113
	Intermediate cut	–	–	–	–	–	–	–	–
	Seed tree	18	491	–	509	–	–	–	509
	Selection	73	5,156	782	6,011	217	56	273	6,284
	Shelterwood	27	381	23	431	–	–	–	431
SUB-TOTALS		**2,296**	**24,968**	**1,160**	**28,424**	**217**	**140**	**357**	**28,781**
Nelson	Clearcut	2,034	9,717	138	11,889	28	728	756	12,645
	Clearcut with reserves	–	185	–	185	–	–	–	185
	Patch cut	–	212	–	212	–	–	–	212
	Intermediate cut	–	145	5	150	–	–	–	150
	Seed tree	370	1,667	30	2,067	–	–	–	2,067
	Selection	368	1,339	125	1,832	–	343	343	2,175
	Shelterwood	220	2,461	13	2,694	–	–	–	2,694
SUB-TOTALS		**2,992**	**15,726**	**311**	**19,029**	**28**	**1,071**	**1,099**	**20,128**
Prince George	Clearcut	3,212	47,255	254	50,721	–	563	563	51,284
	Clearcut with reserves	–	276	–	276	–	–	–	276
	Patch cut	–	110	–	110	–	–	–	110
	Intermediate cut	–	–	–	–	–	–	–	–
	Seed tree	–	26	–	26	–	–	–	26
	Selection	161	334	15	510	–	–	–	510
	Shelterwood	328	415	8	751	–	–	–	751
SUB-TOTALS		**3,701**	**48,416**	**277**	**52,394**	**–**	**563**	**563**	**52,957**
Prince Rupert	Clearcut	2,069	22,005	156	24,230	1	46	47	24,277
	Clearcut with reserves	–	906	–	906	–	–	–	906
	Patch cut	–	136	–	136	–	–	–	136
	Intermediate cut	22	–	–	22	–	–	–	22
	Seed tree	–	79	–	79	–	–	–	79

	Selection	–	814	–	814	–	–	–	814
	Shelterwood	–	81	–	81	–	–	–	81
SUB-TOTALS		**2,091**	**24,021**	**156**	**26,268**	**1**	**46**	**47**	**26,315**
Vancouver	Clearcut	11,411	12,118	4,575	28,104	881	1,432	2,313	30,417
	Clearcut with reserves	28	–	24	52	–	–	–	52
	Patch cut	–	1	–	1	–	–	–	1
	Intermediate cut	165	116	19	300	62	–	62	362
	Seed tree	–	95	30	125	–	–	–	125
	Selection	80	195	–	275	19	160	179	454
	Shelterwood	3	62	8	73	–	–	–	73
SUB-TOTALS		**11,687**	**12,587**	**4,656**	**28,930**	**962**	**1,592**	**2,554**	**31,484**
SUB-TOTALS	**Clearcut**	**22,871**	**139,118**	**5,493**	**167,482**	**910**	**2,903**	**3,813**	**171,295**
	Clearcut with reserves	**140**	**3,000**	**53**	**3,193**	**–**	**–**	**–**	**3,193**
	Patch cut	**–**	**550**	**22**	**572**	**–**	**–**	**–**	**572**
	Intermediate cut	**187**	**261**	**25**	**473**	**62**	**0–**	**62**	**535**
	Seed tree	**388**	**2,374**	**82**	**2,844**	**–**	**–**	**–**	**2,844**
	Selection	**682**	**10,684**	**1,055**	**12,421**	**236**	**559**	**795**	**13,216**
	Shelterwood	**578**	**3,691**	**55**	**4,324**	**–**	**–**	**–**	**4,324**
TOTALS		**24,846**	**159,678**	**6,785**	**191,309**	**1,208**	**3,462**	**4,670**	**195,979**

[1] This is the area within a block where all harvesting was completed during 1998/99. Harvesting on the blocks may have begun in prior years, and harvesting will also have occurred on blocks that were not completed in 1998/99. Areas represent gross area, or total area under the prescription. Based on data in ministry information systems on February 29, 2000.

[2] TFL: tree farm licence.

[3] TSA: timber supply area. Excludes provincial Crown land within woodlot licences and timber licences, and federal lands.

[4] Includes provincial Crown land within woodlot licences and on federal lands, and from timber licences within and outside of TFLs.

[5] Estimates only, because private land owners are not required to report their area harvested. Includes private land within woodlot licences.

[6] Silvicultural systems definitions:

- *Clearcut* removes the entire stand of trees in a single harvesting operation.
- *Clearcut with reserves* retains individual trees or patches of trees during harvesting, to provide for long-term habitat, scenic, biodiversity or other values.
- *Patch cut* creates openings of less than one hectare in size, and is designed to manage such openings as distinct, even-aged openings.
- *Intermediate cut* is a harvest entry prior to a final harvest, leaving enough trees so that the area remains fully stocked.
- *Seed tree* leaves selected trees standing, singly or in groups, after the initial harvest to provide a seed source for natural regeneration.
- *Selection*, by the removal of individual trees or small groups of trees, is designed to manage an area as an uneven-aged stand.

Shelterwood removes trees in a series of cuts designed to achieve a new, even-aged stand under the shelter of the remaining trees.

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Table C-5: Volume of Logs Exported from B.C. in 1998/99, by Species

Exports	Exported under permit[1]	Other exports[2]	Totals
	000m3		
Species			
Balsam	62	24	86
Cedar	–	2	2
Cypress	–	24	24
Douglas-fir	84	750	834
Hemlock	116	139	255
Pine	7	1	8
Spruce	48	6	54
Other softwood	–	–	–
Total softwood	317	946	1,263
Hardwood	18	1	19
TOTAL HARDWOOD	18	1	19
Totals	335	947	1,282

[1] Export permit granted under section 128 of the *Forest Act*. Logs harvested from provincial Crown land, private land within a tree farm licence area, and from private land granted by the Crown after March 12, 1906.

[2] No export permit required under the *Forest Act*. Logs harvested from private land that was granted by the Crown prior to March 12, 1906, and is not within a tree farm licence area, and logs harvested from federal land and First Nations reserves.

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Table C-6: Number of Licences as of March 31, 1999, by Forest Region

Region	Cariboo	Kamloops	Nelson	Prince George	Prince Rupert	Vancouver	Totals
				number			
Form of rights to cut timber							
Tree farm licence (TFL)[1]	2	5	6	4	2	15	33
Woodlot licence	106	103	81	183	75	45	593
Forest licence							
- replaceable	15	23	24	22	25	42	151
- non-replaceable	18	12	2	9	3	14	58
Timber sale licence (pulpwood agreement)[2]	–	–	–	–	–	–	–
Timber sale licence (non-SBFEP)[4]							
- replaceable	–	1	–	1	2	2	6
- non-replaceable	–	–	–	–	–	–	–
Timber sale licence (SBFEP)[5]							
- replaceable	7	28	15	8	3	28	89
- non-replaceable	675	668	334	712	661	566	3,616
Licence to cut[6]	34	27	32	938	24	43	1,098
SBFEP forest licence - non-replaceable	–	–	–	–	–	–	–
Totals	857	867	494	1,877	795	755	5,644

[1] TFL 25, located in both the Vancouver and Prince Rupert forest regions, is included in the Vancouver total only.

[2] Number of active timber sale licences issued in order to satisfy the Crown's obligation under a pulpwood agreement. Volume may have come from non-quota sources.

[3] Small Business Forest Enterprise Program.

[4] Timber sale licences with an allowable annual cut of greater than 10,000 cubic metres per year.

[5] Timber sale licences managed under the Small Business Forest Enterprise Program include replaceable licences with an allowable annual cut of 10,000 cubic metres or less, and non-replaceable licences active as of March 31, 1999 that were sold under sections 20, 21, 23 and 72 of the *Forest Act*.

[6] Issued between April 1, 1998 and March 31, 1999.

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Table C-7: Volume Committed as of March 31, 1999, by Forest Region

Region	Cariboo	Kamloops	Nelson	Prince George	Prince Rupert	Vancouver	Totals
				m3			
Form of rights to cut timber							
Tree farm licence (TFL)[1]	625,619	740,651	1,152,495	1,020,250	1,068,550	11,501,067	16,108,632
Woodlot licence[2]	147,077	97,626	70,062	182,064	87,526	78,209	662,564
Forest licence							
- replaceable	4,514,024	5,569,082	3,328,400	11,353,901	5,716,164	5,704,448	36,186,019
- non-replaceable	1,396,054	424,500	25,000	1,891,611	505,704	436,965	4,679,834
Timber sale licence (pulpwood agreement)[3]	219,000	86,000	–	2,014,000	–	–	2,319,000
Timber sale licence (non-SBFEP[4])[5]							
- replaceable	–	13,437	–	11,372	26,230	39,890	90,929
- non-replaceable	–	–	–	–	–	–	–
Timber sale licence (SBFEP)							
- replaceable[6]	16,441	31,590	47,790	7,193	12,187	100,166	215,367
- non-replaceable[7]	1,191,408	1,136,071	818,558	2,454,758	1,625,115	1,946,111	9,172,021
Forest Service reserve[8]	71,177	636,073	57,195	192,046	70,950	135,310	1,162,751
Totals	**8,180,800**	**8,735,030**	**5,499,500**	**19,127,195**	**9,112,426**	**19,942,166**	**70,597,117**

[1] Total volume of Schedule A (private and timber licence) and B (Crown) lands; does not include Small Business Forest Enterprise Program volumes within tree farm licences (TFLs). Volumes for TFL 25, located in both the Vancouver and Prince Rupert forest regions, are included in the Vancouver total only.

[2] Total volume for both Schedule A and B lands.

[3] Total volume apportioned in timber supply areas (TSAs) and committed in TFLs to reflect the Crown's obligation under pulpwood agreements.

[4] Small Business Forest Enterprise Program.

[5] TSAs with an allowable annual cut of greater than 10,000 cubic metres per year.

[6] TSAs managed under the Small Business Forest Enterprise Program with an allowable annual cut of 10,000 cubic metres or less.

[7] Volume apportioned within TSAs and committed within TFLs to the Small Business Forest Enterprise Program.

[8] Volume apportioned for miscellaneous timber harvested, such as licences to cut and unauthorized cutting.

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Table C-8: Forest Service Road Construction, Inventory and Construction Costs in 1998/99, by Road Width, by Forest Region

		Construction			
		By Licensee[1]	By Ministry[2]	Current Inventory[3]	Construction Cost[4]
		kilometres			$000
Region	**Road WIDTH**				
Cariboo	Double lane	16.6	35.0	929.3	$700.0
	Single lane	–	67.4	5,041.4	751.7
SUB-TOTALS		**16.6**	**102.4**	**5,970.7**	**1,451.7**
Kamloops	Double lane	–	–	–	–
	Single lane	20.0	179.8	10,334.6	2,953.5
SUB-TOTALS		**20.0**	**179.8**	**10,334.6**	**2,953.5**
Nelson	Double lane	–	–	262.5	–
	Single lane	5.0	101.9	9,021.8	2,845.6
SUB-TOTALS		**5.0**	**101.9**	**9,284.3**	**2,845.6**
Prince George	Double lane	9.0	–	2,677.4	–
	Single lane	2.1	84.4	5,643.1	2,227.8
SUB-TOTALS		**11.1**	**84.4**	**8,320.5**	**2,227.8**
Prince Rupert	Double lane	–	–	327.0	–
	Single lane	11.0	172.0	3,966.0	8,579.0
SUB-TOTALS		**11.0**	**172.0**	**4,293.0**	**8,579.0**
Vancouver	Double lane	–	–	159.5	–
	Single lane	6.4	66.5	5,576.5	1,598.7
SUB-TOTALS		**6.4**	**66.5**	**5,736.0**	**1,598.7**
PROVINCIAL SUB-TOTALS	**Double lane**	**25.6**	**35.0**	**4,355.7**	**700.0**
	Single lane	**44.5**	**672.0**	**39,583.4**	**18,956.3**
TOTALS		**70.1**	**707.0**	**43,939.1**	**$19,656.3**

[1] Forest Service roads constructed by the licensee, with costs reflected in the pricing of timber.

[2] Includes works approved under the Small Business Forest Enterprise Program and the Emergency Bark Beetle Program.

[3] March 31, 1999. Includes transfers to and from other government agencies and private ownership, and cancellations.

[4] Licensee costs not included.

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Note:

Ministry annual reporting is based on data in ministry information systems. Where data entry is incomplete or delayed, numbers reported may underestimate actual accomplishments. Numbers reported by the Ministry of Forests may also differ from numbers reported by different methods or other agencies.

Table C-9: Forest Service Road Improvement, Upgrading and Maintenance, with Costs, in 1998/99, by Road Width, by Forest Region

		Improvements/Upgrading[1]		Maintenance[2]		
		By Licensee[3]	By Ministry[4]	By Ministry[4]	Improvements/ Upgrading[5]	Maintenance[5]
		kilometres			$000	
Region	**Road WIDTH**					
Cariboo	Double lane	16.0	1.0	128.0	$23.5	$3.0
	Single lane	–	23.6	1,802.0	146.5	461.7
SUB-TOTALS		**16.0**	**24.6**	**1,930.0**	**170.0**	**464.7**
Kamloops	Double lane	–	–	–	–	–
	Single lane	21.0	149.3	1,807.0	843.7	912.7
SUB-TOTALS		**21.0**	**149.3**	**1,807.0**	**843.7**	**912.7**
Nelson	Double lane	–	–	76.0	–	30.0
	Single lane	20.4	35.7	3,684.0	397.6	1,157.6
SUB-TOTALS		**20.4**	**35.7**	**3,760.0**	**397.6**	**1,187.6**
Prince George	Double lane	122.0	0.5	81.4	24.7	47.0
	Single lane	–	43.4	1,784.8	843.9	665.5
SUB-TOTALS		**122.0**	**43.9**	**1,866.2**	**868.6**	**712.5**
Prince Rupert	Double lane	–	—	–	0.0	–
	Single lane	10.0	52.7	1,340.2	1,035.0	2,184.0
SUB-TOTALS		**10.0**	**52.7**	**1,340.2**	**1,035.0**	**2,184.0**
Vancouver	Double lane	–	–	62.0	–	–
	Single lane	2.5	130.1	871.0	2,680.8	559.3
SUB-TOTALS		**2.5**	**130.1**	**933.0**	**2,680.8**	**559.3**
PROVINCIAL SUB-TOTALS	**Double lane**	**138.0**	**1.5**	**347.4**	**48.2**	**80.0**
	Single lane	**53.9**	**434.8**	**11,289.0**	**5,947.5**	**5,940.8**
TOTALS		**191.9**	**436.3**	**11,636.4**	**$5,995.7**	**$6,020.8**

[1] Improvement beyond general surface maintenance: all aspects of structural maintenance, including road "reconstruction."

[2] Surface maintenance, which includes culvert repairs and replacement of small culverts, cleaning of ditches, bank clearing, spot gravelling, and surface grading.

[3] Forest Service road improvements by the licensee, with costs reflected in the pricing of timber.

[4] Includes works approved under the Small Business Forest Enterprise Program and the Emergency Bark Beetle Program.

[5] Licensee costs not included. Ministry costs for deactivation works are included. Funding sources are Forest Renewal BC, the Small Business Forest Enterprise Program, and the ministry vote.

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Table C-10: Forest Service Bridge and Major Culvert Construction, Inventory and Costs in 1998/99, by Bridge Class, by Forest Region

		Construction[1]			MINISTRY COST[2]	
		By LICENSEE[3]	By MINISTRY[4]	Current INVENTORY[5]	CONSTRUCTION	Inspection and MAINTENANCE
		number			$000	
Region	**STRUCTURE CLASS[6]**					
Cariboo	P	3	9	171	$445.0	$29.0
	T	–	–	15	–	20.0
	MC	–	1	45	45.0	25.0
SUB-TOTALS		**3**	**10**	**231**	**490.0**	**74.0**
Kamloops	P	20	19	331	2,061.7	3.0
	T	–	1	299	40.0	3.5
	MC	4	–	135	61.0	1.5
SUB-TOTALS		**24**	**20**	**765**	**2,162.7**	**8.0**
Nelson	P	44	33	385	3,522.5	64.8
	T	1	1	446	45.3	27.7
	MC	3	6	186	62.0	17.5
SUB-TOTALS		**48**	**40**	**1,017**	**3,629.8**	**110.0**
Prince George	P	7	15	460	884.3	33.0
	T	–	3	81	50.0	21.0
	MC	3	4	371	260.0	4.0
SUB-TOTALS		**10**	**22**	**912**	**1,194.3**	**58.0**
Prince Rupert	P	2	19	256	2,362.0	70.1
	T	–	6	102	110.0	26.4
	MC	1	5	73	567.0	17.7
SUB-TOTALS		**3**	**30**	**431**	**3,039.0**	**114.2**
Vancouver	P	16	26	507	2,972.9	363.5
	T	2	2	485	4.1	65.7
	MC	4	1	129	107.0	3.8
SUB-TOTALS		**22**	**29**	**1,121**	**3,084.0**	**433.0**
PROVINCIAL SUB-TOTALS	**P**	**92**	**121**	**2,110**	**12,248.4**	**563.4**
	T	**3**	**13**	**1,428**	**249.4**	**164.3**
	MC	**15**	**17**	**939**	**1,102.0**	**69.5**
TOTALS		**110**	**151**	**4,477**	**$13,599.8**	**$797.2**

[1] Includes replacement structures.

[2] Licensee costs not included. Forest Renewal BC Bridge Replacement Program costs are included.

[3] Forest Service road structures constructed by licensee, with the costs reflected in the pricing of timber.

[4] Includes works approved under the Small Business Forest Enterprise Program and the Emergency Bark Beetle Program.

[5] March 31, 1999. Includes transfers to and from other government agencies, and private ownership, deletions and closures.

[6] Forest Service structure classes:

P Permanent: Any bridge with a life expectancy at its current location of more than 15 years.
T Temporary: Any bridge with a life expectancy at its current location of less than 5 years.
MC Major Culvert: A culvert with a pipe diameter of at least 2,000 millimetres, or a maximum design discharge of at least six cubic metres per second.

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Table C-11: Seed Additions, Withdrawals and Inventory[1] in 1998/99,[2] by Species

	ADDITIONS		WITHDRAWALS			SEED INVENTORY		
	NATURAL COLLECTIONS	ORCHARD COLLECTIONS	MINISTRY FUNDED	PRIVATELY FUNDED	OTHER[3]	MINISTRY	PRIVATE	FINAL INVENTORY
	kilograms							
SPECIES								
Cedar, western red	2	8	5	36	109	171	575	746
Cedar, yellow (cypress)	157	–	–	17	–	8	194	202
Douglas-fir (Coastal)	–	2	22	318	61	2,624	1,289	3,913
Douglas-fir (Interior)	264	–	52	231	271	5,919	3,567	9,486
Fir, amabilis	146	–	46	334	10	3,133	5,770	8,903
Fir, grand	–	–	2	24	1	525	262	787
Fir, noble	–	–	–	10	6	79	93	172
Fir, subalpine	174	–	77	111	235	1,610	2,228	3,838
Hemlock, mountain	–	–	–	1	–	121	81	202
Hemlock, western	–	7	7	20	35	451	580	1,031
Larch, western	1	11	14	46	10	753	508	1,261
Pine, lodgepole (Coastal)	3	–	–	3	5	129	145	274
Pine, lodgepole (Interior)	467	21	92	595	132	4,446	5,001	9,447
Pine, yellow (ponderosa)	65	–	73	139	154	2,088	2,092	4,180
Pine, western white	–	35	19	50	1	257	563	820
Spruce, hybrid[4]	–	21	58	379	681	13,998	8,705	22,703
Spruce, Sitka	–	–	–	4	11	897	348	1,245
Spruce, Sitka X unknown hybrid	–	–	2	1	–	460	166	626
Other minor	–	–	–	4	2	27	24	51
TOTALS	**1,279**	**105**	**469**	**2,323**	**1,724**	**37,696**	**32,191**	**69,887**

[1] Source: Seed Planning and Registry (SPAR) Information System.

[2] Tree Seed Centre withdrawals are based on a production year of July 1 to June 30. The information in this table is derived from sowing requests fulfilled between July 1, 1998 and June 30, 1999.

[3] For direct seeding, seed sales, research, public relations, export and inventory maintenance.

[4] Includes natural crosses between Engelmann, white and/or Sitka spruces.

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Table C-12: Ministry Seed Orchard Production[1] in 1998/99, by Species, by Orchard

	ORCHARD		TOTAL PRODUCTION	
	number	name	kg of seed	000 trees
SPECIES				
Hemlock, western	143	South Quinsam	4.54	771.5
Larch, western	332	Kalamalka	7.36	604.2
Pine, lodgepole (Interior)	230	Kalamalka	9.44	1,904.8
Pine, western white (Coastal)	175	Saanich	5.41	72.6
Spruce, hybrid	131	Cobble Hill	12.04	1,393.6
TOTALS			**38.79**	**4,746.7**

[1] Source: Seed Planning and Registry (SPAR) Information System.

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Table C-13: Silviculture Accomplishments[1] on Crown Land Funded under Provincial Silviculture Programs[2] in 1998/99, by Forest Region

Region	Cariboo	Kamloops	Nelson	Prince George	Prince Rupert	Vancouver	Totals
				hectares			
Silviculture activity							
Surveying	15,105	8,239	4,873	3,877	1,249	942	34,285
Preparing sites	5	118	238	45	–	12	418
Planting[3]	139	11	305	–	4	18	477
Brushing	–	22	157	–	–	28	207
Forest health[4]	188	–	18	–	–	–	206
Spacing	–	–	–	–	–	16	16
Fertilizing	–	–	–	–	–	–	–
Pruning	–	–	6	–	–	43	49
Totals	**15,437**	**8,390**	**5,597**	**3,922**	**1,253**	**1,059**	**35,658**
				000			
Seedlings planted[5]	**179**	**9**	**336**	**–**	**29**	**20**	**573**

[1] Ministry annual reporting is based on data in ministry information systems on February 29, 2000. Where data entry is incomplete or delayed, numbers reported may underestimate actual accomplishments.

[2] Includes accomplishments under the Current Reforestation sub-program (Ministry Fire and Pest). Surveying accomplishments include surveys conducted by ministry staff.

[3] Planting includes fill-planted or replanted areas. Fill-planted and replanted areas totalled 50 hectares in B.C. for 1998/99.

[4] Includes treatments to control dwarf mistletoe, stem diseases and root diseases.

[5] Includes seedlings fill-planted and replanted.

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Table C-14: Total Silviculture Accomplishments[1] on Crown Land Funded by All Sources[2] in 1998/99, by Forest Region

Region	Cariboo	Kamloops	Nelson	Prince George	Prince Rupert	Vancouver	Totals
	hectares						
Silviculture activity							
Surveying	168,303	151,466	110,942	226,760	109,274	163,893	930,638
Preparing sites	22,646	15,922	10,950	19,884	7,043	1,600	78,045
Planting[3]	28,939	28,764	17,649	49,284	20,645	22,619	167,900
Brushing	12,270	8,543	12,131	26,357	10,558	12,527	82,386
Forest health[4]	25,107	3,025	185	2,297	228	322	31,164
Spacing	8,200	3,742	4,147	6,569	2,885	4,095	29,638
Fertilizing	1,671	187	21	468	93	11,669	14,109
Pruning	77	1,424	377	546	104	1,566	4,094
Totals	**267,213**	**213,073**	**156,402**	**332,165**	**150,830**	**218,291**	**1,337,974**
	000						
Seedlings planted[5]	**35,986**	**35,294**	**20,333**	**69,169**	**25,816**	**19,445**	**206,043**

[1] Ministry annual reporting is based on data in ministry information systems on February 29, 2000. Where data entry is incomplete or delayed, numbers reported may underestimate actual accomplishments.

[2] Includes accomplishments under:

Provincial Silviculture Programs (Table C-13)
Small Business Forest Enterprise Program (Table G-2)
South Moresby Forest Replacement Account (Table H-1)
Private sector (Table X-1)
Non-ministry-funded programs (Table X-2)
Forest Renewal BC (Table X-3)
Forest Stand Management Fund (Table F-1)

[3] Planting includes fill-planted or replanted areas. Fill-planted and replanted areas totalled 28,230 hectares in B.C. for 1998/99.

[4] Includes treatments to control dwarf mistletoe, stem diseases and root diseases.

[5] Includes seedlings fill-planted and replanted.

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Table C-15: Preparing Sites[1] for Planting and Natural Regeneration on Crown Land in 1998/99, by Forest Region

Region	Cariboo	Kamloops	Nelson	Prince George	Prince Rupert	Vancouver	Totals
	hectares						
TREATMENT							
Biological[2]	–	–	–	33	–	–	33
Burning[3]	1,528	1,957	3,509	5,220	1,197	897	14,308
Chemical air	–	–	42	45	–	67	154
Chemical ground	–	–	176	–	–	42	218
Grass seeding[4]	1,658	35	35	192	25	188	2,133
Manual[5]	1,606	123	2,537	59	617	101	5,043
Mechanical	17,854	13,794	4,651	14,302	5,204	305	56,110

Not specified	–	13	–	33	–	–	46
TOTALS	**22,646**	**15,922**	**10,950**	**19,884**	**7,043**	**1,600**	**78,045**

[1] Includes accomplishments under all funding sources. Ministry annual reporting is based on data in ministry information systems on February 29, 2000. Where data entry is incomplete or delayed, numbers reported may underestimate actual accomplishments.

[2] May include sheep or cattle grazing.

[3] May include broadcast burn, landing burn, pile and burn, spot burn, wildfire or windrow.

[4] May include grass seeding of roads, landings or cutblocks.

[5] May include fireguarding, hand site preparation, manual power saw operation, snag falling, or three-metre knockdown.

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Table C-16: Area Planted[1] in 1998/99, by Responsibility, by Forest Region

Region	Cariboo	Kamloops	Nelson	Prince George	Prince Rupert	Vancouver	Totals
	hectares						
Responsibility							
A. Crown land							
Tree farm licence[2]	2,083	3,876	3,330	4,533	1,631	8,521	23,974
Woodlot licence	57	66	116	223	35	67	564
Timber supply area[3]							
Licensee[4]	19,349	19,040	11,059	35,912	14,745	10,280	110,385
Ministry[5]	7,450	5,783	3,145	8,615	4,235	3,751	32,978
Sub-totals	**28,939**	**28,765**	**17,649**	**49,283**	**20,646**	**22,619**	167,901
B. Private land							
Tree farm licence[6]	–	18	–	–	–	600	618
Managed forest land units[7]	–	–	–	–	–	510	510
Other[8]	–	–	–	–	–	–	–
Sub-totals	–	**18**	–	–	–	**1,110**	**1,128**
Totals	**28,939**	**28,783**	**17,649**	**49,283**	**20,646**	**23,729**	**169,028**

[1] Includes accomplishments under all funding sources and all seedlings used for fill-planted and replanted. A total of 28,230 hectares were fill-planted or replanted for 1998/99. Ministry annual reporting is based on data in ministry information systems on February 29, 2000. Where data entry is incomplete or delayed, numbers reported may underestimate actual accomplishments.

[2] On Crown land harvested after October 1, 1987, planting is paid for by the licensee. On Crown land denuded prior to October 1, 1987, planting is funded by Forest Renewal BC but implemented by the licensee.

[3] Includes Crown land within timber supply areas, excluding tree farm licences, woodlot licences, farm leases, federal land, and First Nations reserves.

[4] On Crown land within timber supply areas harvested after October 1, 1987, planting is paid for by the licensee.

[5] For areas denuded after January 1, 1988 under the Small Business Forest Enterprise Program, planting is funded through the Small Business Forest Enterprise account and implemented by the ministry.
For areas denuded under the then-named Small Business Enterprise Program prior to January 1, 1988, planting is funded through Forest Renewal BC and implemented by the ministry.
For areas denuded prior to October 1, 1987 planting is funded by the Forest Renewal BC and implemented by the ministry and industry.

[6] Includes private land within tree farm licences.

[7] Includes private land within managed forest land units, but outside of tree farm licences. Reported data only.

[8] Includes private land outside of tree farm licences and managed forest land units. Reported data only.

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Note:

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Table C-17: Seedlings Planted[1] in 1998/99, by Responsibility, by Forest Region

Region	Cariboo	Kamloops	Nelson	Prince George	Prince Rupert	Vancouver	Totals
				000			
Responsibility							
A. Crown land							
Tree farm licence[2]	3,610	4,406	3,897	6,085	1,563	7,527	27,088
Woodlot licence	52	95	101	275	31	60	614
Timber supply area[3]							
Licensee[4]	23,592	24,784	13,036	51,627	19,733	9,386	142,157
Ministry[5]	8,732	6,010	3,300	11,181	4,489	2,473	36,185
Sub-totals	**35,986**	**35,295**	**20,333**	**69,168**	**25,816**	**19,446**	**206,044**
B. Private land							
Tree farm licence[6]	18	354	–	–	–	232	604
Managed forest land units[7]	–	–	–	–	–	517	517
Other[8]	–	–	–	–	–	–	–
Sub-totals	**18**	**354**	–	–	–	**749**	1,121
Totals	**36,004**	**35,649**	**20,333**	**69,168**	**25,816**	**20,194**	**207,165**

[1] Includes accomplishments under all funding sources and all seedlings used for fill-planted and replanted. Ministry annual reporting is based on data in ministry information systems on February 29, 2000. Where data entry is incomplete or delayed, numbers reported may underestimate actual accomplishments.

[2] On Crown land harvested after October 1, 1987, planting is paid for by the licensee. On Crown land denuded prior to October 1, 1987, planting is funded by Forest Renewal BC but implemented by the licensee.

[3] Includes Crown land within timber supply areas, excluding tree farm licences, woodlot licences, farm leases, federal land, and First Nations reserves.

[4] On Crown land within timber supply areas harvested after October 1, 1987, planting is paid for by the licensee.

[5] For areas denuded after January 1, 1988 under the Small Business Forest Enterprise Program, planting is funded through the Small Business Forest Enterprise account and implemented by the ministry.
For areas denuded under the then-named Small Business Enterprise Program prior to January 1, 1988, planting is funded through Forest Renewal BC and implemented by the ministry.
For areas denuded prior to October 1, 1987 planting is funded by the Forest Renewal BC and implemented by the ministry and industry.

[6] Includes private land within tree farm licences.

[7] Includes private land within managed forest land units, but outside of tree farm licences. Reported data only.

[8] Includes private land outside of tree farm licences and managed forest land units. Reported data only.

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Table C-18: Seedlings Planted[1] on Crown Land in 1998/99, by Species, by Forest Region

Region	Cariboo	Kamloops	Nelson	Prince George	Prince Rupert	Vancouver	Totals[2]
				000			
Species							
Birch, paper	50	2	–	–	–	–	52
Cedar, western red	–	609	439	31	431	6,693	8,203
Cedar, yellow (cypress)	–	1	1	–	18	1,456	1,476
Cottonwood, black	–	2	–	–	–	28	30
Douglas-fir	1,378	3,229	1,044	1,068	–	3,153	9,872
Fir, amabilis	–	–	–	–	1,083	2,537	3,620
Fir, grand	–	–	10	–	–	60	70
Fir, noble	–	–	–	–	–	36	36
Fir, subalpine	81	75	54	546	2,295	–	3,051
Hardwoods[3]	–	–	2	2	11	146	161
Hemlock, mountain	–	27	25	–	72	97	221
Hemlock, western	–	–	107	–	1,696	2,926	4,729
Larch, Siberian	6	6	–	4	16	–	32
Larch, western	2	1,111	3,416	6	–	7	4,542
Pine, lodgepole	25,760	18,240	8,210	30,472	11,174	216	94,072
Pine, western white	–	224	274	–	100	35	633
Pine, yellow (ponderosa)	–	244	362	2	–	13	621
Spruce, Engelmann	–	–	45	–	–	–	45
Spruce, Sitka	–	–	–	–	264	814	1,078
Spruce, species[4]	8,709	11,524	6,344	36,667	8,656	1,228	73,128
Spruce, white	–	–	–	360	–	–	360
Tamarack	–	–	–	11	–	–	11
TOTALS[2]	**35,986**	**35,294**	**20,333**	**69,169**	**25,816**	**19,445**	**206,043**

[1] Includes accomplishments under all funding sources. Ministry annual reporting is based on data in ministry information systems on February 29, 2000. Where data entry is incomplete or delayed, numbers reported may underestimate actual accomplishments.

[2] The number of seedlings does not equal the totals in Tables C-14 and C-17 due to differences in reporting methods.

[3] Hardwoods include alder, aspen, dogwood, poplar and birch.

[4] Includes natural crosses between Sitka, Engelmann and white spruces.

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Table C-19: Brushing[1] on Crown Land in 1998/99, by Forest Region

Region	Cariboo	Kamloops	Nelson	Prince George	Prince Rupert	Vancouver	Totals
				hectares			
Treatment							
Biological[2]	602	765	6	2,462	1,791	–	5,626
Chemical air	1,484	109	611	11,334	–	1,336	14,874
Chemical ground	7	531	1,684	1,466	421	3,545	7,654
Manual							
Non-motorized[3]	7,525	2,819	3,647	6,052	5,561	2,535	28,139

Motorized[4]	1,086	13	346	495	895	724	3,559
Mechanical[5]	1,566	4,284	5,274	3,028	1,887	3,964	20,003
Not specified	–	22	563	1,520	3	423	2,531
Totals	**12,270**	**8,543**	**12,131**	**26,357**	**10,558**	**12,527**	**82,386**

[1] Includes accomplishments under all funding sources. Ministry annual reporting is based on data in ministry information systems on February 29, 2000. Where data entry is incomplete or delayed, numbers reported may underestimate actual accomplishments. Numbers reported by the Ministry of Forests may also differ from numbers reported by different methods or different agencies.

[2] Includes sheep and cattle grazing.

[3] May include manual cutting, manual girdling, stem bending, and mulching.

[4] May include power saw, brush saw, or hand-held motorized cutting equipment.

[5] Includes treatments using mechanized equipment and tractors equipped with brush cutters.

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Table C-20: Average Cost of Silviculture Treatments[1] on Crown Land in 1998/99, by Forest Region

Region	Cariboo	Kamloops	Nelson	Prince George	Prince Rupert	Vancouver	Province
				$/hectare			
Activity							
Basic Silviculture							
Surveying[2]	$23	$19	$22	$17	$18	$14	$19
Preparing sites	237	584	350	407	305	389	378
Planting[3]	301	384	540	465	365	798	449
Brushing - biological[4]	–	275	–	337	529	–	386
Brushing - chemical air[5]	–	–	–	297	–	91	242
Brushing - chemical ground[5]	–	375	194	248	–	227	247
Brushing - manual non-motorized[6]	614	507	598	826	488	1,039	639
Brushing - manual motorized[7]	523	528	810	651	596	915	606
Brushing - mechanical[8]	–	–	–	–	–	1,084	1,084
Spacing[9]	540	597	888	726	990	–	663
Incremental Silviculture							
Surveying[10]	17	15	26	24	25	26	21
Spacing[11]	528	594	393	753	1,057	1,403	717
Fertilizing[12]	300	208		365	–	149	201
Pruning[8]	1,017	887	1,013	1,162	585	2,326	1,415

[1] Average hectare cost was based on data collected for the Small Business Forest Enterprise Program or Forest Renewal BC-funded activities where cost information was provided on the ministry information systems as of February 29, 2000. Includes site-operating costs for equipment, transportation, and wages for crew and crew boss.

[2] Includes surveys for assessing site treatment, plantation survival, stocking, pre-harvest silviculture prescription, and free-growing status. Excludes reconnaissance and drainage surveys.

[3] Excludes cost of seedlings.

[4] Includes sheep and cattle grazing. Small data set.

[5] Includes cost of herbicides.

[6] May include manual cutting, manual girdling, stem bending, and mulching.

[7] May include power saw, brush saw, or hand-held motorized cutting equipment.

[8] Includes second and first lift. Small data set.

[9] Spacing required for stands to reach free-growing status.

[10] Surveys to plan for fertilizing, pruning and spacing activities.

[11] Excludes spacing for mistletoe control.

[12] Includes cost of fertilizer.

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Table C-21: Area under Attack by Forest Insects[1] in 1998/99, by Forest Region

Region	Cariboo	Kamloops	Nelson	Prince George	Prince Rupert	Vancouver	Totals[2]
	hectares						
INSECT TYPE							
Bark beetle[3]	19,429	20,351	9,213	72,380	NA	1,564	122,937
Defoliator[4]	187,266	96,600	–	1,884,572	NA	60,800	2,229,238
Totals[2]	**206,695**	**116,951**	**9,213**	**1,956,952**	**NA**	**62,364**	**2,352,175**

[1] Estimates of losses provided by the Ministry of Forests regional offices.

[2] Excluding Prince Rupert Forest Region data, which was not available (NA).

[3] Includes estimates of areas infested by mountain pine beetle, Douglas-fir beetle, and spruce beetle.

[4] Includes estimates of areas defoliated by western spruce budworm, eastern spruce budworm, two-year-cycle budworm, and western hemlock looper.

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Table C-22: Primary Biological Control Agent Distribution in 1998/99, by Forest Region

WEED	KNAPWEED[1]		TOADFLAX[1]		LEAFY SPURGE		RUSH SKELETONWEED		ST. JOHN'S WORT	
BIOAGENT	Insect[2]	Release[3]	Insect	Release	Insect	Release	Insect	Release	Insect	Release
	number									
Region										
MoF PF[4]	–	–	–	–	–	–	275	3	–	–
Cariboo	2,400	10	800	4	–	–	–	–	–	–
Kamloops	11,404	57	5,914	28	–		2,799	11	–	–
Nelson	17,725	42	5,900	16	150	3	801	3	–	–
Prince George	–	–	–	–	–	–	–	–	700	1
Prince Rupert	–	–	400	2	–	–	–	–	–	–
Vancouver	–	–	–	–	–	–	–	–	–	–
Other[5]	–	–	1,400	3	50	1	–	–	–	–
TOTALS	**31,529**	**109**	**14,414**	**53**	**200**	**4**	**3,875**	**17**	**700**	**1**

[1] Knapweed includes diffuse and spotted knapweed. Toadflax includes dalmatian and yellow toadflax.

[2] Total number of insects released.

[3] Total number of releases (most releases contain approximately 100 insects).

[4] Insects released for breeding at the Ministry of Forests Kamloops Propagation Facility.

[5] Insects shipped to scientists in Alberta and Montana for cooperative research studies.

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Table C-23: Grazing Permits and Licences in 1998/99, by Forest Region

	Permits[1] and licences	Forage	
		AUTHORIZED	USED
	number	AUM[2]	
Region			
Cariboo	489	332,889	317,070
Kamloops	444	353,770	345,304
Nelson	247	83,397	81,500
Prince George	430	149,788	147,119
Prince Rupert	185	34,050	33,442
Vancouver	13	1,668	1,668
Totals	**1,808**	**955,562**	**926,103**

[1] Includes non-replaceable permits.

[2] AUM, or animal unit month, is the amount of forage required for one month by an average-weight beef cow, age six months or older.

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Table C-24: Hay-cutting Permits and Licences in 1998/99, by Forest Region

	permits and licences	HAY	
		authorized	used
	number	tonnes	
Region			
Cariboo	92	1,857	1,748
Kamloops	3	106	106
Nelson	2	35	35
Prince George	10	190	180
Prince Rupert	6	124	124
Vancouver	–	–	–
Totals	**113**	**2,312**	**2,193**

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Table C-25: Recreation Use[1] of B.C.'s Public Forest Lands in 1998/99, by Forest Region

Area type	Roaded areas[2]		Roadless areas[3]	
	HA	Visits	Ha	Visits
		000		
Region				
Cariboo	5,508	2,008	1,780	1,236
Kamloops	5,814	6,283	1,178	3,656
Nelson	4,018	4,480	2,624	2,472
Prince George	11,220	2,266	18,962	1,545
Prince Rupert	5,610	3,111	19,800	1,493
Vancouver	6,120	21,321	4,950	9,373
Totals	**38,290**	**39,469**	**49,294**	**19,775**

[1] Includes all outdoor recreation (e.g., hiking, kayaking, wildlife viewing) that occurs outside of parks and municipalities or settled areas.

[2] Areas within B.C.'s public forest lands which are within one kilometre of a two-wheel-drive road. These areas make up the Roaded Resource and Rural classes of the Recreation Opportunity Spectrum classification system.

[3] Areas within B.C.'s public forest lands which are further than one kilometre from a two-wheel-drive road, are at least 1,000 hectares in size, and are a natural or natural-appearing environment. These areas make up the Primitive, Semi-Primitive Non-Motorized, and Semi-Primitive Motorized classes of the Recreation Opportunity Spectrum classification system.

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Note:

Ministry annual reporting is based on data in ministry information systems. Where data entry is incomplete or delayed, numbers reported may underestimate actual accomplishments. Numbers reported by the Ministry of Forests may also differ from numbers reported by different methods or other agencies.

Table D-1: Number and Causes of Wildfires in 1998/99, by Cause, by Forest Region

Region	Cariboo		Kamloops		Nelson		Prince George		Prince Rupert		Vancouver		Totals	
	1998/99	10-year average	1998/99	10-year average	1998/99	10-year average	1998/99	10-year average	1998/99	10-year average	1998/99	10-year average	1998/99	10-year average
	number of wildfires													
Cause														
Lightning	133	184	597	390	519	393	356	286	70	94	56	122	1,731	1,469
Recreation	12	18	26	62	7	33	31	35	11	25	9	72	96	245
Railroads	1	2	20	18	2	4	4	3	2	1	6	7	35	35
Industrial	29	54	29	70	18	40	33	82	11	39	20	67	140	352
Public	156	154	191	150	53	60	130	75	30	46	100	77	660	562
Totals	**331**	**412**	**863**	**690**	**599**	**530**	**554**	**481**	**124**	**205**	**191**	**345**	**2,662**	**2,663**

Figures may not add due to rounding.

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Table D-2: Area Burned by Wildfires in 1998/99, by Forest Region

Timber	Merchantable Timber		Immature Timber		Other Cover Timber		Totals	
	1998/99	10-year average	1998/99	10-year average	1998/99	10-year average	1998/99	10-year average
	hectares							
Region								
Cariboo	353	369	78	144	733	651	1,164	1,164
Kamloops	18,888	3,285	3,729	529	551	1,027	23,168	4,841
Nelson	2,232	729	127	278	5,077	953	7,436	1,960
Prince George	6,418	5,142	515	3,932	4,414	6,122	11,347	15,196
Prince Rupert	15,847	4,018	658	546	12,149	3,874	28,654	8,438
Vancouver	–	504	–	376	–	821	–	1,701
Totals	**43,738**	**14,047**	**5,107**	**5,805**	**22,924**	**13,448**	**71,769**	**33,300**

Figures may not add due to rounding.

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Table D-3: Timber Burned by Wildfires in 1998/99, by Forest Region

Timber	Merchantable Timber	Immature Timber	Totals
	000m3		
Region			
Cariboo	55.4	5.2	60.6
Kamloops	3,856.8	258.7	4,115.5
Nelson	515.2	5.7	520.9
Prince George	900.6	26.8	927.4
Prince Rupert	3,079.8	24.9	3,104.7
Vancouver	–	–	–
Totals	**8,407.8**	**321.3**	**8,729.1**

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Table F-1: Silviculture Accomplishments[1] on Crown Land Funded the Forest Stand Management Fund[2] in 1998/99, by Forest Region

Region	Cariboo	Kamloops	Nelson	Prince George	Prince Rupert	Vancouver	Totals
				hectares			
Silviculture activity							
Surveying	1,588	–	–	–	–	–	1,588
Preparing sites	611	–	–	–	–	–	611
Planting[3]	68	–	–	–	–	–	68
Brushing	–	–	–	–	–	–	–
Forest health[4]	150	–	–	–	–	–	150
Spacing	50	–	–	–	–	–	50
Fertilizing	–	–	–	–	–	–	–
Pruning	–	–	–	–	–	–	–
Totals	**2,467**	–	–	–	–	–	**2,467**

[1] Ministry annual reporting is based on data in ministry information systems on February 29, 2000. Where data entry is incomplete or delayed, numbers reported may underestimate actual accomplishments.

[2] The Forest Stand Management Fund is a special silviculture sub-account established under the *Special Accounts Appropriation and Control Act* (see Appendix 2: Special Accounts – Statutory.) Holders of non-replaceable licences can pay the government for direct and indirect costs to carry out the silviculture obligations under the silviculture prescription.

[3] Planting includes fill-planted or replanted areas.

[4] Includes treatments to control dwarf mistletoe, stem diseases and root diseases.

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Table G-1: Small Business Forest Enterprise Program (SBFEP) Registrants and Sales in 1998/99, by Forest Region

	Registrants[1]		Sales		
	Cat. 1[2]	Cat. 2[3]	Cat. 1	Cat. 2	VOLUME
	number				$000
Region					
Cariboo	213	24	197	31	$1,397
Kamloops	322	66	439	65	1,461
Nelson	162	44	185	59	1,333
Prince George	245	32	271	49	3,680
Prince Rupert	239	23	321	43	1,752
Vancouver	357	93	291	41	1,816
TOTALS	**1,538**	**282**	**1,704**	**288**	**$11,439**

[1] Number of registrants as at March 31, 1999.

[2] Number of sales to registrants who do not own or lease a timber-processing facility (Category 1).

[3] Number of sales to registrants who own or lease a timber-processing facility (Category 2).

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Table G-2: Silviculture Accomplishments[1] on Crown Land Funded by the Small Business Forest Enterprise Program (SBFEP)[2] in 1998/99, by Forest Region

Region	Cariboo	Kamloops	Nelson	Prince George	Prince Rupert	Vancouver	Totals
	hectares						
Silviculture activity							
Surveying	17,869	18,198	10,567	32,486	15,752	12,228	107,100
Preparing sites	3,205	2,002	1,367	5,820	710	556	13,660
Planting[3]	4,544	3,583	2,457	6,465	3,627	3,256	23,932
Brushing	270	804	1,906	1,952	1,490	1,558	7,980
Forest health[4]	6,224	117	–	179	–	166	6,686
Spacing	151	10	–	–	–	14	175
Fertilizing[5]	–	11	–	–	–	142	153
Pruning[6]	–	–	–	–	–	–	–
Totals	**32,263**	**24,725**	**16,297**	**46,902**	**21,579**	**17,920**	**159,686**
	000						
Seedlings planted[7]	**5,472**	**4,308**	**2,635**	**8,799**	**4,091**	**2,113**	**27,418**

[1] Ministry annual reporting is based on data in ministry information systems on February 29, 2000. Where data entry is incomplete or delayed, numbers reported may underestimate actual accomplishments.

[2] Includes all silviculture accomplishments funded by the Small Business Forest Enterprise account. Includes silviculture activities on areas denuded under the program after January 1, 1988. Silviculture activities are implemented by the ministry.

[3] Planting includes fill-planted or replanted areas. Fill-planted and replanted areas totalled 4,000 hectares in B.C. for 1998/99.

[4] Includes treatments to control dwarf mistletoe, stem diseases and root diseases.

[5] Fertilization at time of planting.

[6] Pruning for disease control.

[7] Includes seedlings fill-planted and replanted.

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Table H-1: Silviculture Accomplishments[1] on Crown Land Funded by the South Moresby Forest Replacement Account[2] in 1998/99

Region	Cariboo	Kamloops	Nelson	Prince George	Prince Rupert	Vancouver	Totals
	hectares						
Silviculture activity							
Surveying	–	–	–	–	–	–	–
Preparing sites	–	–	–	–	–	–	–
Planting	–	–	–	–	–	–	–
Brushing	–	–	–	–	–	–	–
Spacing	–	–	–	–	–	25	25
Fertilizing	–	–	–	–	–	–	–
Pruning	–	–	–	–	–	–	–
Totals	–	–	–	–	–	25	25

[1] Ministry annual reporting is based on data in ministry information systems on February 29, 2000. Where data entry is incomplete or delayed, numbers reported may underestimate actual accomplishments.

[2] South Moresby National Park Reserve is in the Vancouver Forest Region.

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Table X-1: Silviculture Accomplishments[1] on Crown Land In 1998/99 Funded by the Private Sector,[2] by Forest Region

Region	Cariboo	Kamloops	Nelson	Prince George	Prince Rupert	Vancouver	Totals
	hectares						
Silviculture activity							
Surveying	74,098	60,343	52,601	100,531	46,544	76,064	410,181
Preparing sites	18,413	13,367	8,289	13,349	6,307	925	60,650
Planting[3]	21,571	22,506	14,266	40,331	16,228	18,833	133,735
Brushing	6,251	5,223	6,207	15,060	5,218	6,327	44,286
Forest health[4]	15,689	2,519	167	2,118	188	141	20,822
Spacing	1,193	297	276	1,266	171	269	3,472
Fertilizing	–	39	21	–	93	1,787	1,940
Pruning	–	–	–	–	–	6	6
Totals	**137,215**	**104,294**	**81,827**	**172,655**	**74,749**	**104,352**	**675,092**
	000						

Seedlings planted[5]	**27,249**	**28,968**	**16,952**	**57,731**	**21,212**	**16,914**	**169,026**

[1] Ministry annual reporting is based on data in ministry information systems on February 29, 2000. Where data entry is incomplete or delayed, numbers reported may underestimate actual accomplishments.

[2] Includes reported silviculture activities on areas denuded by licensees after October 1, 1987, voluntary treatments by licensees, and activities on royalty-bearing lands.

[3] Planting includes fill-planted or replanted areas. Fill-planted and replanted areas totalled 19,300 hectares in B.C. for 1998/99.

[4] Includes treatments to control dwarf mistletoe, stem diseases and root diseases.

[5] Includes seedlings fill-planted and replanted.

Note: The X series tables report accomplishments on Crown land funded by sources outside the Ministry of Forests. Therefore, the X series is not included in the ministry vote structure reported in Table 2.

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Table X-2: Silviculture Accomplishments[1] under Non-ministry-funded Programs[2] in 1998/99, by Forest Region

Region	Cariboo	Kamloops	Nelson	Prince George	Prince Rupert	Vancouver	Totals
				hectares			
Silviculture activity							
Surveying	215	–	–	–	–	26	241
Preparing sites	–	–	740	–	–	–	740
Planting[3]	–	–	15	–	–	3	18
Brushing	–	–	–	9	–	–	9
Forest health	–	–	–	–	–	–	–
Spacing	–	–	699	–	–	4	703
Pruning	–	–	36	–	–	–	36
Totals	**215**	–	**1,490**	**9**	–	**33**	**1,747**
				000			
Seedlings planted[4]	–	–	–	–	–	–	–

[1] Ministry annual reporting is based on data in ministry information systems on February 29, 2000. Where data entry is incomplete or delayed, numbers reported may underestimate actual accomplishments.

[2] Non-ministry-funded programs include federal job creation and provincial corrections programs.

[3] Planting includes fill-planted or replanted areas. Fill-planted and replanted areas totalled 18 hectares in B.C. for 1998/99.

[4] Includes seedlings fill-planted and replanted.

Note: The X series tables report accomplishments on Crown land funded by sources outside the Ministry of Forests. Therefore, the X series is not included in the ministry vote structure reported in Table 2.

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Table X-3: Silviculture Accomplishments[1] on Crown Land Funded by Forest Renewal BC in 1998/99, by Forest Region

Region	Cariboo	Kamloops	Nelson	Prince George	Prince Rupert	Vancouver	Totals
				hectares			
Silviculture activity							
Surveying	59,428	64,686	42,901	89,866	45,729	74,633	377,243
Preparing sites	412	435	316	670	26	107	1,966
Planting[2]	2,617	2,664	606	2,488	786	509	9,670
Brushing	5,749	2,494	3,861	9,336	3,850	4,614	29,904
Forest health[3]	2,856	389	–	–	40	15	3,300
Spacing	6,806	3,435	3,172	5,303	2,714	3,767	25,197
Fertilizing	1,671	137	–	468	0	9,740	12,016
Pruning	77	1,424	335	546	104	1,517	4,003
Totals	**79,616**	**75,664**	**51,191**	**108,677**	**53,249**	**94,902**	**463,299**
				000			
Seedlings planted[4]	**3,086**	**2,009**	**410**	**2,639**	**484**	**398**	**9,026**

[1] Ministry annual reporting is based on data in ministry information systems on February 29, 2000. Where data entry is incomplete or delayed, numbers reported may underestimate actual accomplishments. Includes Forest Renewal BC-funded silviculture activities for ministry backlog areas (Ministry Outstanding and Industry Outstanding areas).

[2] Planting includes fill-planted or replanted areas. Fill-planted and replanted areas totalled 4,250 hectares in B.C. for 1998/99.

[3] Includes treatments to control dwarf mistletoe, stem diseases and root diseases.

[4] Includes seedlings fill-planted and replanted.

Note: The X series tables report accomplishments on Crown land funded by sources outside the Ministry of Forests. Therefore, the X series is not included in the ministry vote structure reported in Table 2.

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